570 Crespi Drive Project

SCH# 2021120126

Draft Environmental Impact Report

Prepared for
City of Pacifica

April 2025

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Draft Environmental Impact Report

SCH# 2021120126

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1. INTRODUCTION

1.1 TYPE AND PURPOSE OF THE EIR

The 570 Crespi Drive Project Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970, Public Resource Code (PRC) Sections 21000-21189, as amended, and the Guidelines for Implementation of the California Environmental Quality Act, California Code of Regulations (CCR) Title 14, Sections 15000-15387 (CEQA Guidelines). The City of Pacifica is the lead agency for the environmental review of the 570 Crespi Drive Project (proposed project) evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the environmental consequences of approving the proposed project, (b) identify possible ways to minimize the significant adverse environmental effects, and (c) describe reasonable and feasible project alternatives which reduce environmental effects. The lead agency is required to consider the information in the EIR along with any other available information in deciding whether to approve the application. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term “project” refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City has determined that the proposed mixed-use project is a *project* within the definition of CEQA, which has the potential for resulting in significant environmental effects.

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project-level EIR* pursuant to CEQA Guidelines Section 15161, which is an analysis that examines the environmental impacts of a specific development project. A *project-level EIR* focuses primarily on the changes in the environment that would result from the development of the project, and examines all phases of the project including planning, construction, and operation.

1.2 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

“Responsible agency” means a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term responsible agency includes all California public agencies other than the lead agency that have discretionary approval power over the project or an aspect of the project. The San Francisco Regional Water Quality Control Board (RWQCB) and Bay Area Air Quality Management District (BAAQMD) are identified as potential responsible agencies.

"Trustee agency" means a State agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. The only known possible trustee agency for the project is the California Department of Fish and Wildlife (CDFW).

Although not subject to California law, and, thus, outside the definitions of responsible agency or trustee agency, the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and Federal Emergency Management Agency (FEMA) may also be called upon to grant approvals under federal law necessary for the development of the proposed project. The above agencies do not have duties under CEQA, but, rather, are governed by a variety of federal statutes, such as the Clean Water Act, which governs the dredging and filling of waters of the U.S. (e.g., wetlands), and the federal Endangered Species Act, which requires USACE to consult with the USFWS as part of the review process for any wetland or fill permits that may be required.

1.3 PROJECT SUMMARY

A summary of the project location, description, and approvals is provided below. Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project and entitlements, as well as a full list of the project objectives.

Project Location

The proposed project would include development on a 1.68-acre project site comprised of two parcels in the City of Pacifica, California. Parcel 1 is located at 570 Crespi Drive (Assessor's Parcel Number [APN] 022-162-310) and is designated Mixed Use Center in the City of Pacifica General Plan 2040. Parcel 2 is located on a portion of APN 022-162-420 located at 540 Crespi Drive. The northern portion of Parcel 2 is designated Public and Semi Public, while the southern half is designated Park. Both sites are zoned Controlled Manufacturing District (M-1). Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the west; commercial businesses and Ocean View Senior Apartments to the north, across Crespi Drive; the Cabrillo Elementary School and commercial businesses to the east; and single-family residences to the south.

Project Description

The proposed project would include a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). The project would also include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Building A would consist of 3,165-square feet (sf) of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. All three buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. A portion of the units would be ownership Below Market Rate (BMR) units pursuant to the City's Inclusionary Ordinance. In addition, the project would involve off-site improvements, including removal of two trees and construction of a new driveway associated parking spaces north of the existing Pacifica Community Center located at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezone, Zoning Text Amendment, Use Permit, Site Development Permit, Development Agreement, Parking Exception, Sign Permit, Tree Permit, Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment (LLA). The Development Agreement, among other things, would require the proposed

project to provide affordable units, and construct a driveway and 17 parking spaces at the adjacent Community Center.

1.4 EIR PROCESS

Pursuant to CEQA Guidelines Section 15063, following preliminary review, the Lead Agency shall conduct an Initial Study to determine if the project may have a significant effect on the environment. If the Lead Agency can determine that an EIR will clearly be required for the project, an Initial Study is not required but may still be desirable. The purpose of an Initial Study includes, but is not limited to, providing the Lead Agency with information to use as the basis for deciding whether to prepare an EIR. Furthermore, an Initial Study may assist in the preparation of an EIR (if one is required) by focusing the EIR on the effects determined to be potentially significant. (CEQA Guidelines Section 15063(c)(3)(A)). Impacts identified as potentially significant in the Initial Study prepared for the proposed project, have focused the content of this EIR, are discussed in further detail below, under Section 1.5, Scope of the EIR.

Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Land Use and Climate Innovation (LCI), which will ensure that responsible and trustee State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Commenting agencies have 30 days to respond to the NOP and provide information regarding alternatives and mitigation measures they wish to have explored in the Draft EIR and to provide notification regarding whether the agency will be a responsible agency or a trustee agency for the project.

Upon completion of the Draft EIR and prior to circulation to State and local agencies and interested members of the public, a notice of completion is filed with the SCH and a public notice of availability is published to inform interested parties that a Draft EIR is available for agency and public review. In addition, the notice provides information regarding the location where copies of the Draft EIR are available for public review and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a minimum period of 45 days, during which time reviewers may submit comments on the document to the lead agency. The lead agency must respond to comments in writing. If significant new information, as defined in CEQA Guidelines Section 15088.5, is added to an EIR after public notice of availability is given, but before certification of the EIR, the revised EIR or affected chapters must be recirculated for an additional public review period with related comments and responses.

A Final EIR will be prepared, containing public comments on the Draft EIR and written responses to those comments, as well as a list of changes to the Draft EIR text necessitated by public comments, as warranted. Before approving a project, the lead agency shall certify that the EIR (consisting of the Draft EIR and Final EIR) has been completed in compliance with CEQA, and that the EIR has been presented to the decision-making body of the lead agency, which has reviewed and considered the EIR. The lead agency shall also certify that the EIR reflects the lead agency's independent judgment and analysis.

Pursuant to CCR Title 14, Section 15091, a public agency shall not approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The

findings prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a Statement of Overriding Considerations explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

1.5 SCOPE OF THE EIR

Pursuant to the CEQA Guidelines, the scope of this EIR addresses specific issues and concerns identified as potentially significant in the Initial Study prepared for the proposed project (see Appendix A). Accordingly, the sections of the CEQA Guidelines Appendix G Checklist identified for study in this EIR include the following:

- Biological Resources;
- Greenhouse Gas Emissions; and
- Transportation.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.3 of the EIR. Each chapter is divided into the following four sections: Introduction, Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures. Impacts that are determined to be significant in Chapters 4.1 through 4.3, and for which feasible mitigation measures are not available to reduce those impacts to a less-than-significant level, are identified as *significant and unavoidable*. Chapter 5 of the EIR presents a discussion of growth-inducing impacts, summary of cumulative impacts, significant irreversible environmental changes, and significant and unavoidable impacts associated with the project. Alternatives to the proposed project are discussed in Chapter 6 of the EIR.

1.6 DEFINITION OF BASELINE

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the “baseline physical conditions” against which project-related changes could be compared. In addition, CEQA Guidelines Section 15126.2(a) states that an EIR shall identify and focus on the significant environmental effects of the proposed project. The CEQA Guidelines, Section 15126.2(a), states:

> An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the proposed project was published on October 4, 2024. Therefore, conditions existing at that time are considered to be the baseline against which changes that would result from the proposed project are evaluated. Impacts could include both direct and indirect physical changes to the baseline condition. The baseline condition for the project site is described in Chapter 3, Project Description, of this EIR. The baseline conditions pertaining to each resource area are described in the “Existing Environmental Setting” section of the respective chapters of this EIR.

1.7 NOTICE OF PREPARATION AND SCOPING

In accordance with CEQA Guidelines Section 15082, an NOP as well as an attached Initial Study (see Appendix A), was circulated to the public, local, State and federal agencies, and other known interested parties for a 30-day public and agency review period from October 4, 2024 to November 4, 2024. The purpose of the NOP was to provide notification that an EIR for the proposed project was being prepared and to solicit public input on the scope and content of the document.

In addition, pursuant to CEQA Guidelines Section 15082, the City held an NOP scoping meeting during the public review period on October 22, 2024, for the purpose of receiving comments on the scope of the environmental analysis to be prepared for the proposed project. Agencies and members of the public were invited to attend and provide input on the scope of the EIR. Verbal comments were not received. A total of two comment letters were received during the NOP public review period. The comment letters are provided as Appendix B to this EIR. All comments were taken into consideration during the preparation of this Draft EIR, and a summary of the NOP comments received is provided in Section 1.8 below.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

As noted above, the City received two comment letters during the public review period. A copy of each letter is provided in Appendix B of this EIR. The comment letters received during the NOP public review period were authored by representatives of the following public agencies:

- California Department of Fish and Wildlife; and
- California Department of Transportation.

The following list, categorized by issue, summarizes the environmental concerns brought forth in the comment letters received on the scope of the EIR.

Biological Resources *(Chapter 4.1)*	Concerns related to: • Impacts to special-status plant and animal species • Impacts to environmentally sensitive habitat areas (ESHAs); • Mitigations for temporary disturbances to plant and wildlife species related to noise, lighting, reflection, air pollution, traffic, or human presence will be mitigated; • Obstruction of movement corridors and access to core habitat features; • Effects of proposed tree removal on nesting birds; and • Impacts to wetland habitat.
Transportation *(Chapter 4.3)*	Concerns related to: • The potential need for encroachment permits; and • Project access points' conformity with the American Disabilities Act (ADA).
Initial Study *(Appendix A)*	• The loss of open space and agricultural land; • Changes to the site's volume of runoff resulting from the increases in impervious surfaces; • Impacts to downstream creeks and reservoirs; and • Potential adverse effects of construction and operation of the project on water quality.

All of the foregoing concerns are addressed in this EIR and Initial Study, in the relevant sections identified in the first column of the table above.

1.9 DRAFT EIR AND PUBLIC REVIEW

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, the general public, organizations, and agencies can submit comments to the Lead Agency on the Draft EIR's accuracy and completeness. Release of the Draft EIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105.

The public can review the Draft EIR at the City's website at:

https://www.cityofpacifica.org/departments/community-development/planning-division/environmental-documents

or at the following address during normal business hours:

City of Pacifica, Planning Division
1800 Francisco Boulevard
Pacifica, CA 94044

All comments or questions regarding the Draft EIR should be addressed to:

Brianne Harkousha, Deputy Director of Community Development
City of Pacifica, Planning Division
170 Santa Maria Avenue
Pacifica, CA 94044
(650) 738-7341
publiccomment@pacifica.gov

1.10 ORGANIZATION OF THE DRAFT EIR

The EIR is organized into the following sections:

Chapter 1 – Introduction

Provides an introduction and overview describing the intended use of the Draft EIR and the review and certification process, as well as summaries of the chapters included in the Draft EIR, and the issues and concerns received from the public and public agencies during the NOP review period.

Chapter 2 – Executive Summary

Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation. In addition, the Executive Summary includes a summary of the project alternatives and areas of known controversy.

Chapter 3 – Project Description

Provides a detailed description of the proposed project, including the project's location, background information, objectives, and technical characteristics.

Chapter 4 – Environmental Setting, Impacts, and Mitigation

Contains project-specific and cumulative analysis of environmental issue areas associated with the proposed project. The section for each environmental issue contains an introduction and description of the setting of the project site pertaining to that environmental issue area, identifies impacts, and recommends appropriate mitigation measures.

Chapter 5 – Statutorily Required Sections
Provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts, potential growth-inducing impacts, significant and unavoidable impacts, and significant irreversible changes to the environment.

Chapter 6 – Alternatives Analysis
Describes and evaluates the alternatives to the proposed project. It should be noted that the alternatives will be analyzed at a level of detail less than that of the proposed project; however, the analyses will include sufficient detail to allow for a meaningful comparison of impacts.

Chapter 7 – EIR Authors and Persons Consulted
Lists EIR and technical report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 8 – References
Provides bibliographic information for all references and resources cited.

Appendices
The appendices include the NOP and Initial Study, comments received during the NOP comment period, and technical reports prepared for the proposed project.

2. Executive Summary

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Executive Summary chapter of the EIR provides an overview of the proposed project (see Chapter 3, Project Description, for further details) and provides a table summary of the conclusions of the environmental analysis provided in Chapters 4.1 through 4.3. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 6, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1 contains the environmental impacts associated with the proposed project, the significance of the impacts, the proposed mitigation measures for the impacts, and the significance of the impacts after implementation of the mitigation measures.

2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The proposed project would include development on a 1.68-acre project site consisting of a vacant parcel (Parcel 1) and a 0.7-acre vacant portion of a second parcel (Parcel 2) in the City of Pacifica, California. Parcel 1 is located at 570 Crespi Drive (Assessor's Parcel Number [APN] 022-162-310) and is designated Mixed Use Center in the City of Pacifica General Plan 2040. The project site also includes a vacant (eastern) portion of Parcel 2, located at 540 Crespi Drive (APN 022-162-420). The northern portion of Parcel 2 is designated Public and Semi Public, while the southern half is designated Park. Both parcels are zoned Controlled Manufacturing District (M-1). Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the west; commercial businesses and Ocean View Senior Apartments to the north, across Crespi Drive; the Cabrillo Elementary School and commercial businesses to the east; and single-family residences to the south.

The proposed project would include a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). The project would also include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Building A would consist of 3,165-square feet (sf) of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. All three buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. A portion of the units would be ownership Below Market Rate (BMR) units pursuant to the City's Inclusionary Ordinance.

In addition, the project would involve off-site improvements, including a new trash enclosure area, construction of a new driveway, and associated parking spaces for the existing Pacifica Community Center located at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezone, Zoning Text Amendment, Use Permit, Site Development Permit, Development Agreement, Parking Exception, Sign Permit, Tree Permit, Tentative Subdivision Map, and Lot Merger and/or Lot Line Adjustment (LLA), The Development Agreement, among other things, would include the following developer requirements: (1) the creation of BMR units on-site; (2) an affordable housing

contribution to City; (3) the construction of improvements at the Pacifica Community Center as noted above; (4) a driveway lease with the City to allow the project to use the City's driveway; and (5) wetland interpretative signage.

Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the proposed project, as well as a full list of the project objectives.

2.3 ENVIRONMENTAL IMPACTS AND PROPOSED AND RECOMMENDED MITIGATION

Under CEQA Guidelines Section 15382, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Mitigation measures must be implemented as part of the proposed project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are included in this EIR and are found in the following technical chapters: Biological Resources; Greenhouse Gas Emissions; and Transportation. The mitigation measures presented in the Initial Study (IS) and EIR will form the basis of the Mitigation Monitoring and Reporting Program (MMRP). Any impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

A summary of the impacts identified in the technical chapters of the IS and this EIR (Chapters 4.1 through 4.3) are presented in Table 2-1 at the end of this chapter. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact, and the resulting level of significance after implementation of mitigation measures for each impact.

2.4 SUMMARY OF PROJECT ALTERNATIVES

The following section presents a summary of the evaluation of the alternatives considered for the proposed project, which include the following:

1. No Project (No Build) Alternative;
2. 100 Percent Affordable Housing Alternative; and
3. Reduced Intensity Alternative.

For a more thorough discussion of project alternatives that were evaluated in this EIR, including alternatives considered but dismissed, please refer to Chapter 6, Alternatives Analysis. Project objectives are referenced throughout this section as CEQA requires an EIR to describe a reasonable range of alternatives that could feasibly attain most of the basic objectives of the project but that would avoid or substantially lessen significant effects of the project. A full list of project objectives can be found in Chapter 3, Project Description.

1. No Project (No Build) Alternative

Under the No Project (No Build) Alternative, current conditions of the project site would remain, and the site would not be developed. The No Project (No Build) Alternative would not meet any of the project objectives. Because changes to the project site would not occur under the No Project (No Build) Alternative, impacts would not occur related to any environmental issue areas.

2. 100 Percent Affordable Housing Alternative

The 100 Percent Affordable Housing Alternative would consist of a similar buildout of the components of the proposed project. Similar to the proposed project, the 100 Percent Affordable Housing Alternative would include development of a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). In addition, the project would involve off-site improvements, including the removal of two trees and construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center. Under the 100 Percent Affordable Housing Alternative, the development would change the proposed units from market-rate units to affordable units. As currently proposed, the project includes only a portion of residential units as Below Market Rate ownership units affordable to buyers with low or moderate incomes. Under the alternative, the proposed project would include a total of 19 units affordable to buyers with low or moderate incomes.

The 100 Percent Affordable Housing Alternative would result in fewer impacts related to greenhouse gas (GHG) emissions and vehicle miles traveled (VMT), and similar impacts related to all other environmental issue areas. Because the 100 Percent Affordable Housing Alternative would include development of the same uses as the proposed project, all of the project objectives would be met.

3. Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the proposed project would implement the components as described in Chapter 3, Project Description, of this EIR, but with four fewer residential units. Under the proposed project's current plans, the project site would be developed with a total of 19 residences across a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). Building B would include seven residential units, and Building C would include nine residential units. The remaining three units would be located within Building A above the ground floor hosting the commercial uses.

The Reduced Intensity Alternative would eliminate four residences from the project by reducing Building C by three units and Building B by one unit (see Figure 6-1 of this EIR). Both buildings would remove the units from the end closest to the existing wetlands, thereby increasing the buffer distance between the development and the wetlands. However, because the Reduced Intensity Alternative would still include the potential disturbance and possible fill of the on-site waters of the State, removal of potential riparian vegetation, and the removal of on-site trees, the associated mitigation measures would still be required.

The Reduced Intensity Alternative would result in fewer impacts related to GHG emissions and VMT, and similar impacts to all other environmental issue areas. Because the Reduced Intensity Alternative would include development of the same uses as the proposed project, all of the project objectives would be met. Objective 5 would arguably be better met under the Reduced Intensity Alternative, as the removal of four units would preserve more open space on-site.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." In this case, the No Project (No Build) Alternative would be considered the environmentally superior alternative, because the project site

is assumed to remain in its current condition under the alternative. Consequently, none of the impacts resulting from the proposed project would occur under the Alternative. However, the No Project (No Build) Alternative would not meet any of the project objectives.

As discussed throughout the Alternatives Analysis chapter of this EIR, both the 100 Percent Affordable Housing Alternative and the Reduced Intensity Alternative would result in fewer impacts than the proposed project. Under both alternatives, impacts related to GHG emissions and VMT, which were identified as significant and unavoidable for the proposed project, would not occur. However, the Reduced Intensity Alternative would only include a portion of affordable units, consistent with the City's Inclusionary Housing Ordinance. Therefore, the 100 Percent Affordable Housing Alternative would more effectively contribute to the City's goals related to the provision of affordable housing. Based on the above, because the 100 Percent Affordable Housing Alternative would result in fewer significant impacts than the proposed project and would not interfere with the City's goals related to providing affordable housing, the 100 Percent Affordable Housing Alternative would be considered the environmentally superior alternative.

2.5 AREAS OF KNOWN CONTROVERSY

The CEQA Guidelines, Section 15123(b), require that this EIR consider areas of controversy known to the lead agency, including issues raised by agencies and the public. Areas of controversy that were identified in NOP comment letters on the proposed project should be considered, as well. The areas of known controversy for the proposed project relate to the following:

- Impacts to special-status plant and animal species;
- Impacts to environmentally sensitive habitat areas (ESHAs);
- Temporary disturbances to plant and wildlife species related to noise, lighting, reflection, air pollution, traffic, or human presence;
- Obstruction of wildlife movement corridors and access to core habitat features;
- Effects of proposed tree removal on nesting birds;
- Impacts to wetland habitat;
- The potential need for encroachment permits;
- Project access points' conformity with the American Disabilities Act (ADA);
- The loss of open space and agricultural land;
- Changes to the site's volume of runoff resulting from the increases in impervious surfaces;
- Impacts to downstream creeks and reservoirs; and
- Potential adverse effects of construction and operation of the project on water quality.

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Biological Resources			
4.1-1 Have a substantial adverse effect, either directly (e.g., threaten to eliminate a plant community) or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species (San Francisco Bay spineflower).	S	*4.1-1(a)* *Prior to the commencement of construction associated with the proposed project, focused plant preconstruction surveys shall be conducted by a qualified biologist during the documented bloom periods of San Francisco Bay spineflower. Two site visits, including one early-season (April) and one late-season (July) shall be sufficient to cover the blooming periods. If San Francisco Bay spineflower are not observed during the focused plant surveys, impact to special-status plant species would not occur, and mitigation would not be required. The results of the surveys shall be submitted to the City's Planning Department.* *4.1-1(b)* *If San Francisco Bay spineflower are identified on-site during the focused plant surveys, the project applicant shall be responsible for ensuring construction activities avoid special-status plants through preparation and submittal to the City's Planning Department of an Avoidance Plan Report detailing protection and avoidance criteria, measures, and the extent to which special-status plants were successfully avoided. The Avoidance Plan Report shall be subject to approval by the City's Planning Department and CDFW.* *If avoidance is infeasible, the qualified biologist shall ensure seed collection for affected special-status plants is completed and plants are re-established at*	LS

NI = No Impact; N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		a minimum of a one-to-one ratio (number of newly established plants relative to the number of plants impacted) in a preserved, suitable habitat approved by the City and CDFW. The project applicant shall document and submit proof of compliance to the City's Planning Department and CDFW. *Re-established special-status plant populations shall be monitored annually by the project applicant in accordance with an approved Habitat Mitigation and Monitoring Plan prepared in consultation with the City's Planning Department, with annual monitoring taking place for a minimum of five years. The Habitat Mitigation and Monitoring Plan shall include criteria, subject to approval by all applicable agencies, including the City's Planning Department, USFWS, and CDFW, detailing the survival ratio required of re-established populations and performance standards for further replanting for any re-established special-status plant species that do not survive. Reports describing performance results shall be prepared by a qualified biologist and shall be submitted to the City's Planning Department for years one, three, and five of the monitoring period.*	
4.1-2 Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through	S	*4.1-2* *To ensure compliance with protections for migratory birds under the MBTA and the CFGC, the measures outlined below shall be implemented prior to the commencement of construction activities. Evidence of compliance shall be submitted to the City's*	LS

NI = No Impact; N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
habitat modifications, on saltmarsh common yellowthroat, and other migratory birds and raptors protected under the MBTA.		*Planning Department for review and approval prior to the commencement of construction activities.* 1. *If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), pre-construction surveys or other mitigation measures are not necessary.* 2. *If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey shall be conducted on the identified work area and a buffer zone (see #3, below). The survey shall be performed by a qualified biologist no more than two weeks prior to the initiation of work. If nesting or breeding activity is not observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 250 feet of construction activities, including equipment staging, for raptors and 100 feet for other protected bird species shall be mapped.* 3. *For any active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for other protected bird species), the project biologist shall make a*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		determination as to whether or not construction activities are likely to disrupt reproductive behavior. If construction is determined unlikely to disrupt breeding behavior, construction may proceed. If construction is determined to potentially disrupt breeding, the construction-free buffer zone shall be expanded; avoidance is the only mitigation available. The ultimate size of the construction-free buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of site between the work area and the nest, physical barriers, and the ambient level of human activity. For raptors, the project biologist shall contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments. *If construction activities are determined likely to disrupt raptor breeding, construction activities within the construction-free buffer zone may not proceed until the project biologist determines that the nest is unoccupied.* 4. *If the project contractor, in consultation with the City, determines that maintenance of a construction-free buffer zone is not*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		practicable, active nests shall be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If construction activities are determined to potentially cause nest abandonment, work shall cease until the project biologist determines that the nest is unoccupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management shall be contacted for guidance.	
4.1-3 Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through habitat modifications, on California red-legged frog.	S	*4.1-3* *Implement Mitigation Measures 4.1-4(b) and 4.1-4(c).*	LS
4.1-4 Have a substantial adverse effect on any riparian habitat or other sensitive natural community, or State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	*4.1-4(a)* *Prior to the commencement of ground-disturbing activities, the project applicant shall notify CDFW, pursuant to CFGC Section 1600. The notification shall include a description of all of the activities associated with the proposed project, not just those associated with the drainages and/or riparian vegetation. Impacts shall be outlined in the notification and are expected to be in substantial conformance with the impacts to biological resources outlined in the Updated Definition of Potentially Jurisdictional Aquatic Resources and*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Effects Analysis prepared for the 570 Crespi Drive Project by Wood Biological Consulting. Impacts for each activity shall be broken down by temporary and permanent impacts. A description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent impact. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, along with a description of stormwater treatment methods. Minimization and avoidance measures shall be proposed, as appropriate, and may include preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific stormwater BMPs. Mitigation for impacts to 0.550-acre of arroyo willow scrub riparian vegetation may include restoration or enhancement of resources on- or off-site, or any other method acceptable to CDFW. Mitigation shall not result in a net loss of a Sensitive Natural Community. *If CDFW determines through the course of the CFGC Section 1600 notification process that the project does not require a Lake or Streambed Alteration Agreement (LSAA) to address potential impacts to arroyo willow scrub, further mitigation beyond the proposed mitigation included in the*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		notice to CDFW regarding the aforementioned vegetation communities shall not be required. Written verification of the applicant's compliance with the Section 1600 LSAA process shall be submitted to the City of Pacifica Planning Division prior to the start of any construction activities.	
		4.1-4(b) Prior to the start of any construction activities, a temporary sediment and debris barrier shall be installed on the southern limit of the construction area that slopes toward the arroyo willow and emergent wetland habitat. The fence will also double as a wildlife exclusion fence during construction. The fence shall consist of standard construction silt fence material with a height of 36 inches. The lower six inches of fence material shall either be folded toward the construction side of the fence and weighted down with soil or sandbags, or backfilled in a trench; with both methods, the purpose is to completely contact the surface so that water and sediment would not flow underneath, and wildlife would not enter the work area from the wetland. The barrier shall be maintained throughout the duration of the construction period. Evidence of compliance with this measure shall be submitted to the City of Pacifica Planning Division prior to the start of any construction activities.	
		4.1-4(c) A qualified biologist, or a designated representative who has been trained by a qualified biologist, shall	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		inspect the area inside of the sediment and debris barrier for special-status species, including California red-legged frog, every day before construction activities commence. If any special-status species are found, the qualified biologist shall be immediately contacted (if the survey was conducted by the designated representative), construction activities shall not be allowed to start, and the USFWS and CDFW shall be consulted on an appropriate course of action. Such action could include leaving the animal alone to move away on its own or the relocation of the animal to an area outside of the construction area. The qualified biologist, in consultation with the CDFW and USFWS, shall make the ultimate determination of the action to be taken. Evidence of compliance with this measure shall be submitted to the City's Planning Department upon discovery of special-status species and prior to commencement of construction activities. *4.1-4(d)* *If required and prior to initiation of grading, excavation, or other construction activities, the project applicant shall submit to the San Francisco Bay RWQCB an application for CWA Section 401 Water Quality Certification and/or Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the State and obtain a permit or waiver. The project applicant shall be responsible for conducting all project activities in accordance with the permit provisions*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		outlined in any applicable permit. A copy of the Water Quality Certification or waiver issued for the project shall be submitted to the City's Planning Department prior to commencement of grading, excavation, or other construction activities.	
4.1-5 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS	*None required.*	N/A
4.1-6 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	S	*4.1-6* *Prior to issuance of any grading permit, the project applicant shall obtain a Tree Removal Permit for any protected trees to be removed and a Tree Encroachment Permit for any construction activities within 50 feet of a protected tree from the City of Pacifica Director of Public Works.* *Prior to issuance of a certificate of occupancy, the project applicant shall complete planting of any replacement trees required as part of the Director of Public Works heritage tree removal authorization or other authorizations. In addition, the project applicant shall prepare and submit a Tree Protection and Preservation Plan prior to the protected tree removal or encroachment authorizations or other authorizations in accordance with the City Municipal Code, Sections 4-12.02 through 4-12.11, and shall*	LS

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Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
				implement any tree protection measures identified to protect trees which will not be removed during construction prior to commencement of any construction activity.	
4.1-7	**Cumulative impact on biological resources.**	LS	*None required.*		N/A
	4.2 Greenhouse Gas Emissions				
4.2-1	**Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.**	CC, S	*4.2-1(a)*	*Prior to the approval of project improvement plans, the applicant shall implement the following measure:* • *Consistent with BAAQMD's Transportation criterion d., a total of four EV Capable parking spaces shall be installed throughout the 15 on-site uncovered parking spaces, and an additional four EV Capable parking spaces shall be installed throughout the 17 community center spaces, consistent with the current CALGreen Tier 2 standards.* *Compliance with the foregoing measure shall be ensured by the City of Pacifica Planning Division.*	LS
			4.2-1(b)	*Implement Mitigation Measure 4.3-3.*	
	4.3 Transportation				
4.3-1	**Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities.**	S	*4.3-1*	*Prior to grading permit issuance, the project applicant shall prepare a construction traffic management plan for review and approval by the City Engineer. The plan shall include the following:*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *A project staging plan to maximize on-site storage of materials and equipment;* • *A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure proceedings; signs, cones and other warning devices for drivers; and designation of construction access routes;* • *Provisions for maintaining adequate emergency access to the project site;* • *Permitted construction hours, per City of Pacifica standards;* • *Designated locations for construction staging areas;* • *Identification of parking areas for construction employees, site visitors, and inspectors, including on-site locations; and* • *Provisions for street sweeping to remove construction-related debris on public streets.*	
4.3-2 Conflict with a program, plan, ordinance or policy addressing the circulation system during operations.	LS	*None required.*	N/A
4.3-3 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	SU	*4.3-3 The project applicant shall implement the following CAPCOA VMT reduction strategy T-9 to reduce the number of vehicle trips that would be generated by future residents, subject to review and approval by the City Engineer. The timing for the strategy is set forth below:*	SU

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Implement subsidized or discounted transit program (CAPCOA Handbook Strategy T-9) *The proposed project shall provide subsidized or discounted, or free transit passes for residents of the project's 19 dwelling units.* *Prior to occupancy of the multi-family residential units, the project applicant shall provide two free one-year transit passes to residents of the project's 19 dwelling units.*	
4.3-4 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) or result in inadequate emergency access.	S	*4.3-4*	*Implement Initial Study Mitigation Measure IX-3.*	LS
Initial Study				
V. Cultural Resources				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? **b. Cause a substantial adverse change in the significance of a unique archaeological**	S	*V-1.*	*If any potentially historic resources, prehistoric or historic artifacts, or other indications of cultural deposits, such as historic privy pits or trash deposits, are found once ground disturbing activities are underway, all work within the vicinity of the find(s) shall cease, the find(s) shall be immediately evaluated by a qualified archaeologist, and the City's Planning Department shall be notified of the find(s). If the find is determined to be a historical or unique archaeological resource, as determined by the*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
resource pursuant to Section 15064.5?		*qualified archeologist, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available (CEQA Guidelines Section 15064.5). Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place (Public Resources Code Sections 21083 and 21087).*	
c. Disturb any human remains, including those interred outside of dedicated cemeteries.		*The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.* *V-2. In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the Coroner determines that the remains are Native American, then, within 24 hours,*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 48 hours after notification by the Native American Heritage Commission, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the landowner, then the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. If human remains are encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the City of Pacifica Planning Department. *The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
VII. Geology and Soils			
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: **iii. Seismic-related ground failure, including liquefaction?** **iv. Landslides?** **c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**	S	*VII-1.*	*All grading and foundation plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the Director of Public Works/City Engineer, Chief Building Official, and a qualified Geotechnical Engineer prior to issuance of a grading or building permit to ensure that all geotechnical recommendations specified in the Geotechnical Investigation, dated January 2016, and the Response to Geotechnical Peer Review, dated April 30, 2020, prepared for the proposed project by GeoForensics, Inc. are properly incorporated and utilized in the project design.*	LS
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	S	*VII-2.*	*Implement Mitigation Measure VII-1*	LS
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	S	*VII-3.*	*In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall immediately halt and a qualified paleontologist shall be procured to evaluate the discovery for the purpose of recording,*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		protecting, or curating the discovery as appropriate. The qualified paleontologist shall provide the City of Pacifica Planning Department with a report detailing the findings and method of curation or protection of the resources for review and approval by City Planning staff prior to recommencing construction.	
IX Hazards and Hazardous Materials			
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	S	*IX-1.* *Prior to initiation of grading, excavation, or other ground-disturbing activities on the northern portion of the project site, the project applicant shall complete an analysis of on-site soils to determine whether substantial concentrations of soil contaminants are present above the applicable direct exposure Environmental Screening Levels (ESLs) set by the Regional Water Quality Control Board. If contaminants are not detected above applicable ESLs, then further mitigation is not required. If contaminants are detected above the applicable ESLs, then the soils shall be remediated by off-hauling to a licensed landfill facility. Such remediation activities shall be performed by a licensed hazardous waste contractor (Class A) and contractor personnel that have completed 40-hour OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and overseen by the San Mateo County Environmental Health Services Division. The results of soil sampling and analysis, as well as verification of proper remediation and disposal, shall be submitted*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures		Level of Significance After Mitigation
			to the City of Pacifica Planning Department for review and approval.	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	S	*IX-2.*	*Implement Mitigation Measure IX-1.*	LS
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	S	*IX-3.*	*Prior to the issuance of a building permit, the project shall demonstrate compliance with the 26-foot access road width, or obtain Fire Marshall approval of an Alternative Methods and Materials request by the NCFA to deviate from the 26-foot access road width requirement for the Project.*	LS
X. Hydrology and Water Quality				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? **e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**	S	*X-1.*	*During construction, the contractor shall implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable, which may include but are not necessarily limited to the following practices, or other BMPs identified in the California Stormwater Quality Association (CASQA) Construction BMP Handbook and in the City's Municipal Regional Permit for stormwater discharges:* • *Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		employed to control erosion from disturbed areas; • *Inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways shall be covered or treated with nontoxic soil stabilizers;* • *Exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways shall be enclosed or covered;* • *The contractor shall ensure that no earth or organic material will be deposited or placed where such materials may be directly carried into a stream, marsh, slough, lagoon, or body of standing water;* • *The following types of materials shall not be rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water; and* • *Grass or other vegetative cover shall be established on the construction site as soon as possible after disturbance.* *The applicable BMPs shall be included via notation on the project Improvement Plans for review and approval by the City Engineer prior to issuance of a grading, excavation, or building permit.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		X-2. *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall execute and record a Maintenance Agreement addressing future maintenance of the stormwater treatment measures required to comply with Provision C.3 of the Municipal Regional Permit. The Maintenance Agreement shall be subject to review and approval by the City Engineer and the City Attorney's Office.* *X-3.* *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall install all required stormwater treatment measures, and demonstrate full compliance with the stormwater treatment plans prepared for the proposed project. Evidence of such shall be submitted to the City Engineer for review and approval.*	
XIII. Noise			
b. Generation of excessive groundborne vibration or groundborne noise levels?	S	*XIII-1.* *Pile driving shall be prohibited during construction of the proposed project. Compliance with such shall be ensured by the City of Pacific Planning Division.*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
XVIII. Tribal Cultural Resources			
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). **b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**	S	*XVIII-1. Implement Mitigation Measures V-1 and V-2.*	LS

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3. Project Description

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

Section 15124 of CEQA Guidelines requires an EIR to contain a project description, including the location and boundaries of the project, statement of project objectives, general description of the project's technical, economic and environmental characteristics, and a statement briefly describing the intended uses of the EIR.

The Project Description chapter of the EIR provides a comprehensive description of the 570 Crespi Drive Project (proposed project) in accordance with Section 15124. It should be noted that, while this chapter provides an overall general description of the existing environmental conditions, detailed discussions of the existing setting in compliance with CEQA Guidelines Section 15125 are included in each technical chapter of this EIR.

3.2 PROJECT LOCATION

The 1.68-acre project site is located just south of Crespi Drive in the City of Pacifica, California (see Figure 3-1 and Figure 3-2). The site consists of the entirety of the 0.98-acre lot identified by Assessor's Parcel Number (APN) 022-162-310, located at 570 Crespi Drive (Parcel 1), and the southeastern 0.70-acre portion of APN 022-162-420, located at 540 Crespi Drive (Parcel 2). Parcel 1 is designated Mixed Use Center (MUC) in the City's General Plan, and Parcel 2 is designated Public and Semi Public (approximately northern half) and Park (approximately southern half). Both parcels are zoned Controlled Manufacturing District (M-1).

3.3 BACKGROUND

On December 8, 2021, the City released an Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed project. The public review period was from December 8, 2021, to January 10, 2022. Public hearings for consideration of the project and IS/MND were held on March 7, 2022, by the City Planning Commission, and on November 14, 2022, by the City Council. Based on public comments, the City determined that an EIR was required. As such, the City revised the IS/MND to an Initial Study (IS), and released a new NOP with the revised IS for public review (see Appendix A to this EIR). The public review period for the new NOP was from October 4, 2024, to November 4, 2024. A NOP scoping meeting was held on October 22, 2024, before the City Planning Commission.

On January 5, 2022, prior to preparation and publication of the revised IS and NOP, the City of Pacifica released a Draft General Plan Update and associated Draft EIR, and on July 11, 2022, the Draft General Plan Update and associated Draft EIR were adopted and certified by the City. Therefore, the analysis contained within the revised IS and this Draft EIR relies on the information contained therein.

Figure 3-1
Regional Project Location

Figure 3-2
Project Location Map

3.4 PROJECT SETTING AND SURROUNDING LAND USES

The site historically included residential uses, but is currently undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. The western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area. The existing drainage is located adjacent to a wooden backyard fence and an existing underground storm drain.

Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the west; commercial businesses and Ocean View Senior Apartments to the north, across Crespi Drive; the Cabrillo Elementary School and commercial businesses to the east; and single-family residences to the south.

3.5 PROJECT OBJECTIVES

The project applicant has identified the following specific objectives for the proposed project:

1. Create a viable mixed-use project that responsibly maximizes the potential for the development of the site.
2. Accentuate and strengthen the commercial streetscape by fronting the mixed-use building on Crespi Drive.
3. Take advantage of combining vehicle circulation with the existing Community Center.
4. Consider parking demand over time for commercial and residential uses to minimize the overall need to devote land to parking.
5. Concentrate development towards the front of the site, preserving a generous amount of open space at the rear of the property in its natural state.
6. Foster connectivity and interaction with the Pacifica Community Center.

3.6 PROJECT COMPONENTS

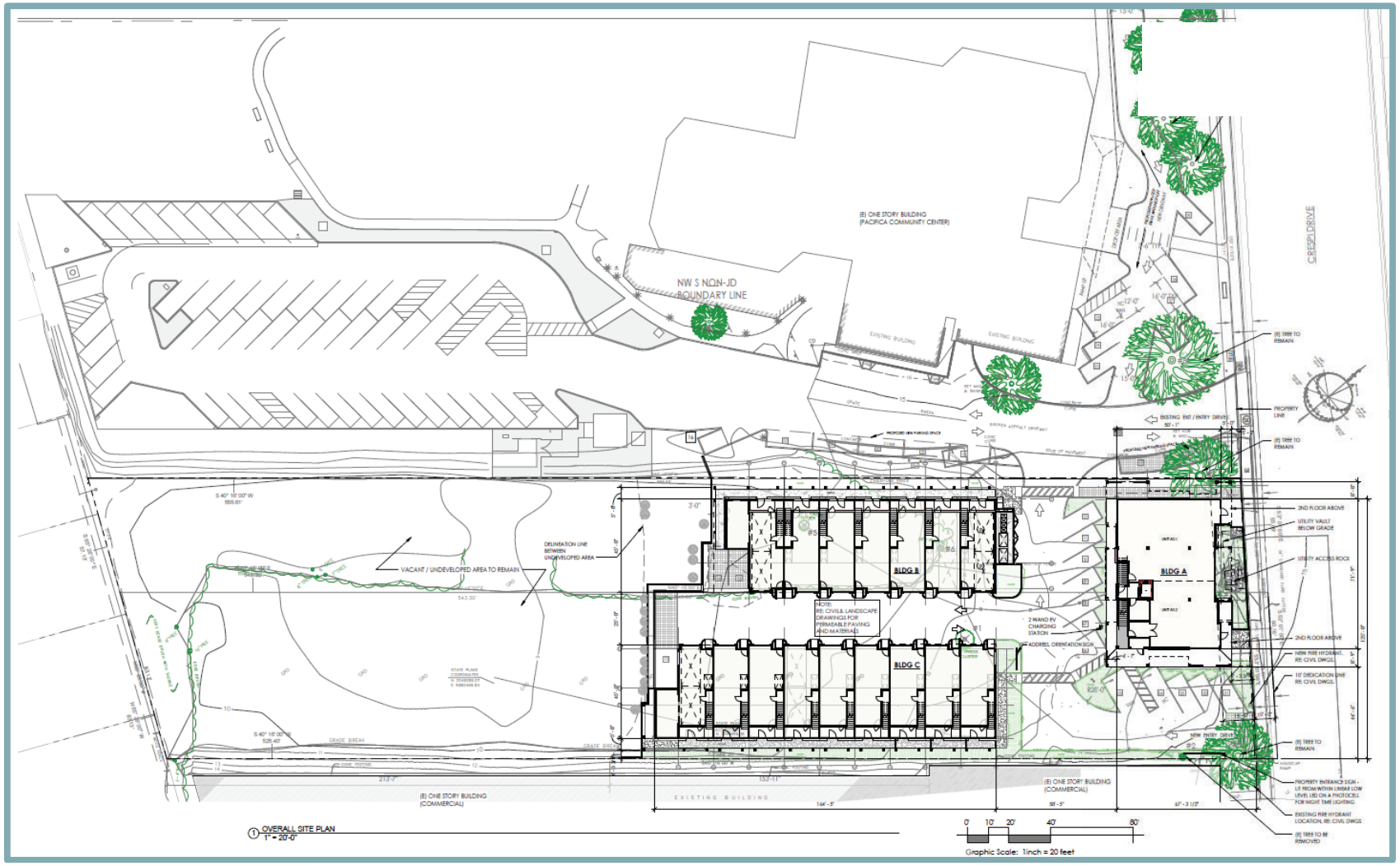
The proposed project would include the purchase from the City of Pacifica of a 0.70-acre portion of Parcel 2 and a Lot Merger and/or Lot Line Adjustment (LLA) to combine the 0.70-acre portion of Parcel 2 and Parcel 1. The new 1.68-acre parcel would be developed with one two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C) (see Figure 3-3). The project would include a condominium subdivision to create one commercial condominium and 19 residential condominiums. In addition, the project would include tree removal and construction of off-site improvements, including the construction of a new driveway and parking spaces north of the existing Pacifica Community Center.

The proposed project would require approval of a General Plan Amendment, Rezone, Zoning Text Amendment, Use Permit, Site Development Permit, Development Agreement, Parking Exception, Sign Permit, Tree Permit, Tentative Subdivision Map, Lot Merger and/or LLA. Additional details regarding the requested approvals and entitlements are discussed below.

General Plan Amendment

A General Plan Amendment would be required to redesignate the 0.70-acre portion of Parcel 2 from the two current General Plan land use designations (Public and Semi-Public, and Park) to MUC, consistent with the existing land use designation of Parcel 1.

Figure 3-3
Site Plan



Rezoning/Zoning Text Amendment/Use Permits

As part of the proposed project, the project site would be Rezoned from M-1 to the Community Commercial (C-2) zoning district. Pursuant to Pacifica Municipal Code Section 9-4.1101(b)(8), residential dwelling units are conditionally allowable within the C-2 zone when located above the ground floor in the same building as a commercial use. Therefore, approval of a Use Permit would be required in order to develop the three proposed units on the second story of Building A.

A Zoning Text Amendment is proposed as part of the project to allow residential uses as a conditional use on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. Approval of the proposed Zoning Text Amendment is required to allow for the development of Buildings B and C, which are both residential buildings, in the C-2 zoning district, which would encompass the entire project site following City approval of the requested Rezone.

The Zoning Text Amendment would also allow other projects in the C-2 zoning district to apply for Use Permits for residential uses within the C-2 zoning district. As approval of Use Permits is subject to the requirements of CEQA, development of any new residential uses on other sites would require site-specific environmental review and would not be allowed by-right by the proposed Zoning Text Amendment. Therefore, this Draft EIR analyzes only the impact of the proposed project.

Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment

The proposed project would include approval of a Tentative Subdivision Map and a Lot Merger and/or LLA to combine Parcel 1 and the southeastern 0.70-acre portion of Parcel 2. The Tentative Subdivision Map would include the creation of one commercial structure and 19 residential condominiums on the site. The Tentative Subdivision Map is provided as Figure 3-4. The proposed buildings, access and circulation, landscaping, utilities infrastructure, and off-site improvements are discussed in further detail below.

Proposed Buildings

Building A would consist of 3,165 square feet (sf) of commercial space on the ground floor and three residential units on the second floor. Buildings B and C would be three stories each and would contain seven and nine townhomes, respectively, for a project-wide total of 19 units. The buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. A portion of the residential units would be Below Market Rate (BMR) ownership units, which would be affordable to buyers with low or moderate incomes. Refer to Figure 3-5, Figure 3-6, and Figure 3-7 for the first-, second-, and third-story floor plans for all proposed buildings. Construction is anticipated to occur over an approximately two-year period. Grading would involve importing approximately 2,400 cubic yards of soil.

As previously discussed, Building A would be developed as a mixed-use building, with the ground floor consisting of 3,165-sf of commercial space and three residential units on the second floor. The western and easternmost units in Building A would each be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies. The center unit in Building A would be approximately 925 sf with one bedroom, one bathroom, and a single balcony.

Building B would include seven townhomes, and Building C would include nine townhomes. The residential units would be located on the second and third floors of the three-story buildings.

Figure 3-4
Tentative Subdivision Map

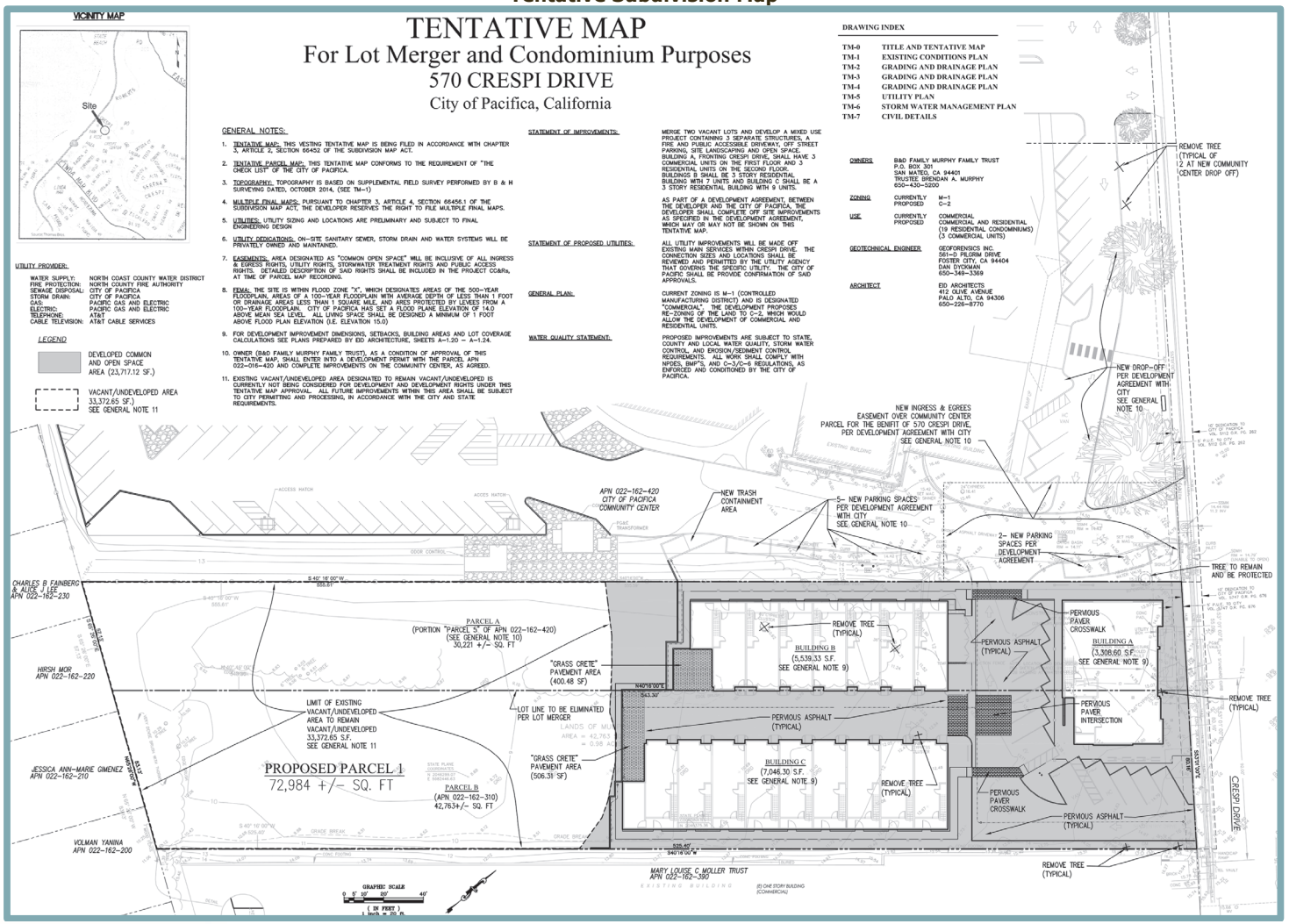


Figure 3-5
Floor Plan – Level 1

Figure 3-6
Floor Plan – Level 2

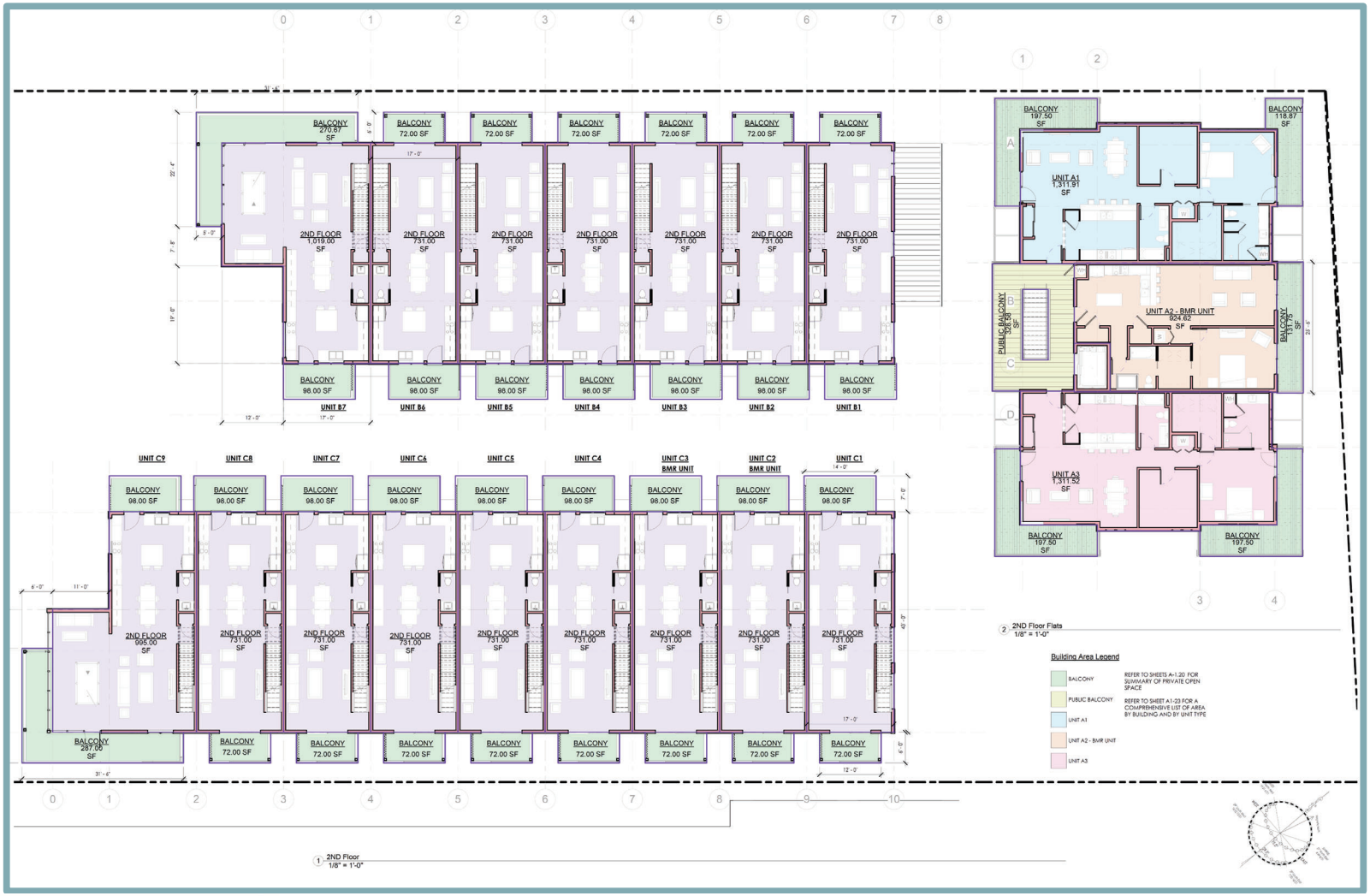
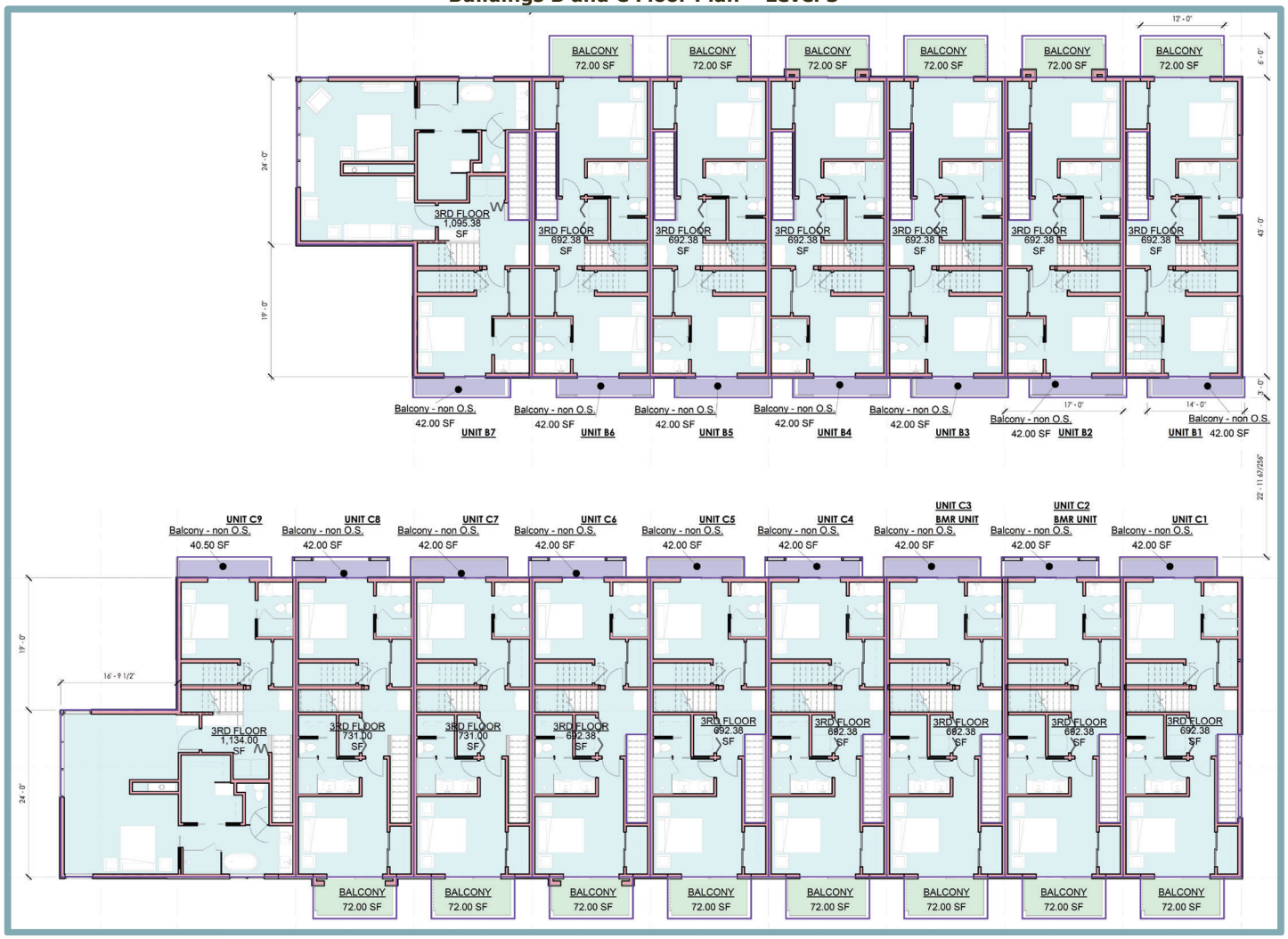


Figure 3-7
Buildings B and C Floor Plan – Level 3



The first-floor entryway, second floor, and third floor of each unit would total approximately 1,521 sf, with the exception of the southernmost unit in Building B which would be 2,212 sf and the southernmost unit in Building C which would be 2,227 sf. A roof deck would be provided above each unit in Buildings B and C.

Parking, Access, and Circulation

Primary access to the project site would be provided from Crespi Drive. The one-way driveway entrance would be provided along the eastern side of Building A and loop around the southern portion of Building A, before exiting the site to the west through a connection to the existing two-way driveway that would be shared with the Pacifica Community Center (see Figure 3-3). A new two-way drive aisle would connect to the proposed loop to allow residents access to Buildings B and C.

The proposed project would include private tandem garages for each proposed unit within Buildings B and C, as well as an additional 15 uncovered parking spaces, for a total of 47 parking spaces on-site. Of the 47 total parking spaces provided on-site, three would provide electric vehicle charging. Of the 15 uncovered parking spaces, five would be located on the east side of Building A, seven located directly south of Building A, two south of Building B, and one south of Building C.

The proposed project would also include off-site circulation improvements north of the Pacifica Community Center. The improvements would include construction of 17 uncovered parking spaces and a drop-off area intended for use by the Pacifica Community Center (see Figure 3-8). Additional off-site improvements adjacent to and north of the project site would include construction of 17 parking spaces, a drop-off area, and a new trash containment area for use by the Pacifica Community Center, as well as the removal of trees and landscape improvements.

Landscaping

The proposed project would include landscaping features throughout the development area, the off-site improvement area, and along the Crespi Drive frontage (see Figure 3-9 and Figure 3-10). Proposed plant types include, but are not limited to, crape myrtle, desert willow, sea lavender, dwarf mat rush, and Cleveland sage. All landscaping improvements would be consistent with the City's landscape design requirements (which require a minimum of 10 percent of the area in commercial zoning districts to be landscaped), and would include at least two inches of mulch.

Utilities

Sewer service for the proposed project would be provided by the City. Each building would be served by an eight-inch sanitary sewer line to connect to the proposed residential units (see Figure 3-11). In addition, each building would be constructed with a new sanitary sewer cleanout connected to the eight-inch sewer lines. The proposed eight-inch lines would eventually connect to an existing sanitary sewer line within Crespi Drive to be routed to the City's wastewater treatment plant.

Water service would be provided by the North Coast County Water District (NCCWD) through connection to the existing water main located within Crespi Drive. A four-inch water line would be routed to all three buildings to provide fire service, while a three-inch water line would be routed to the proposed buildings to provide domestic water services. Electricity services would be provided by Pacific Gas & Electric (PG&E).

Figure 3-8
Off-Site Improvements

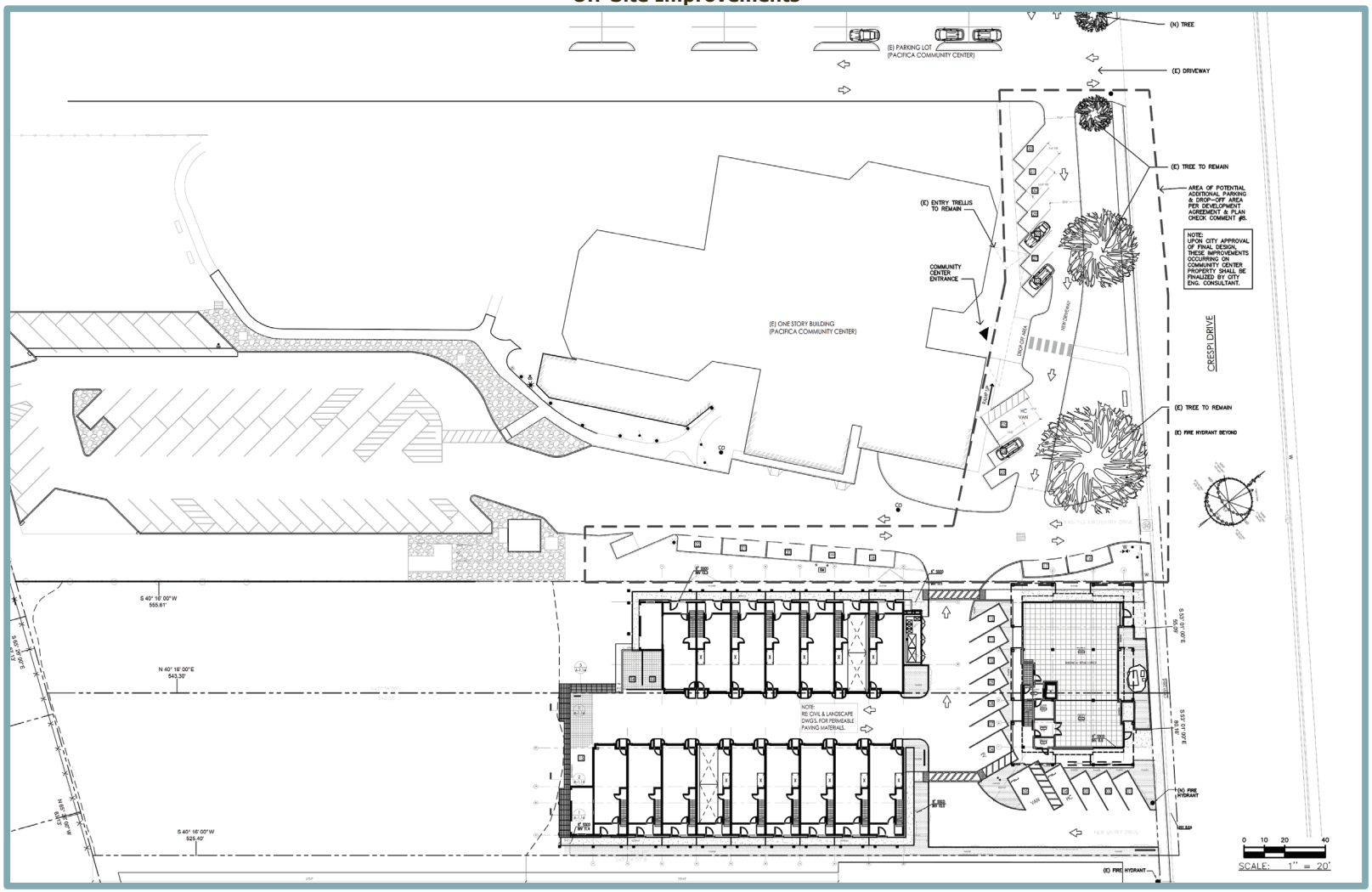


Figure 3-9
Site Landscaping Plan

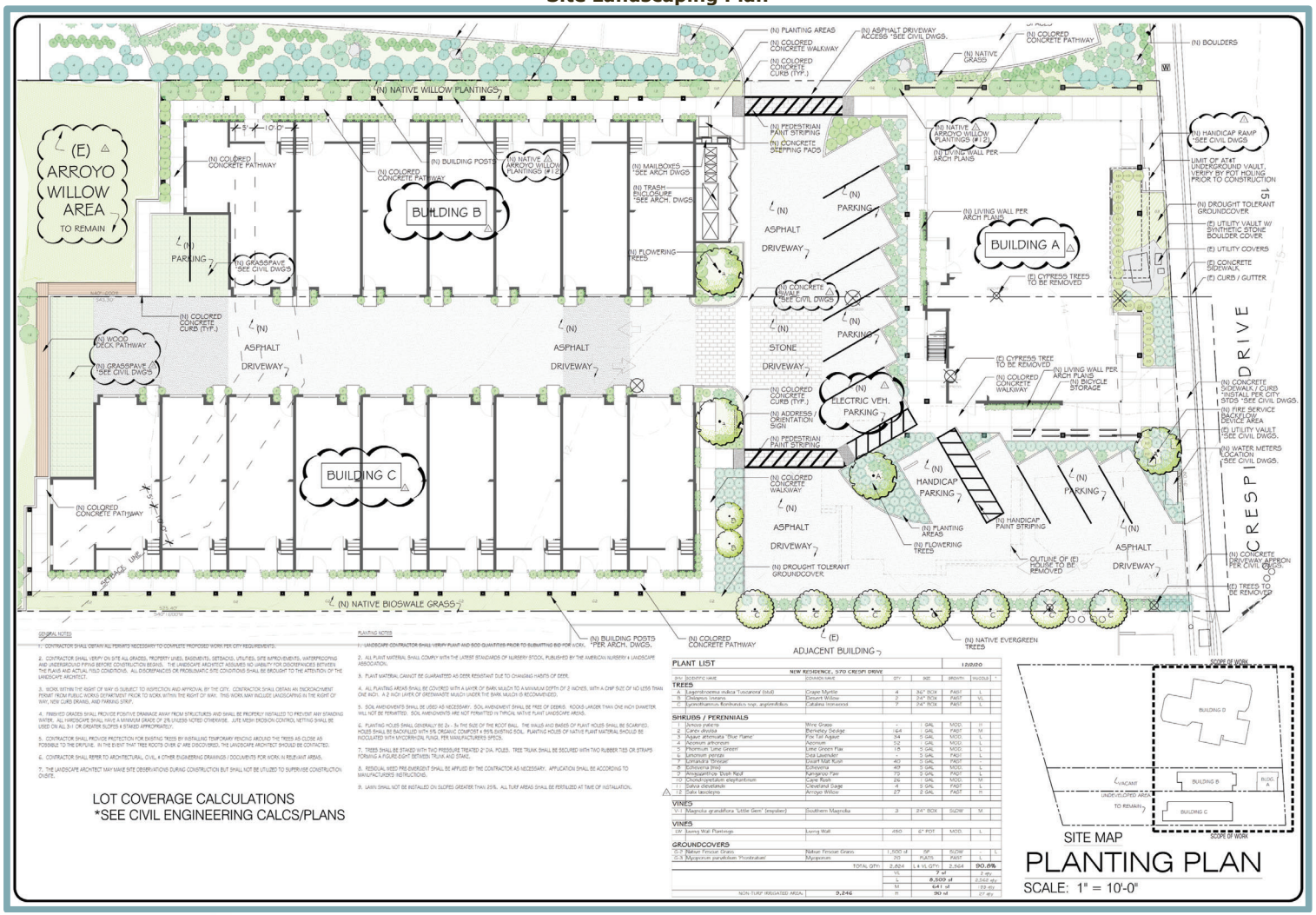


Figure 3-10
Off-Site Landscaping Plan

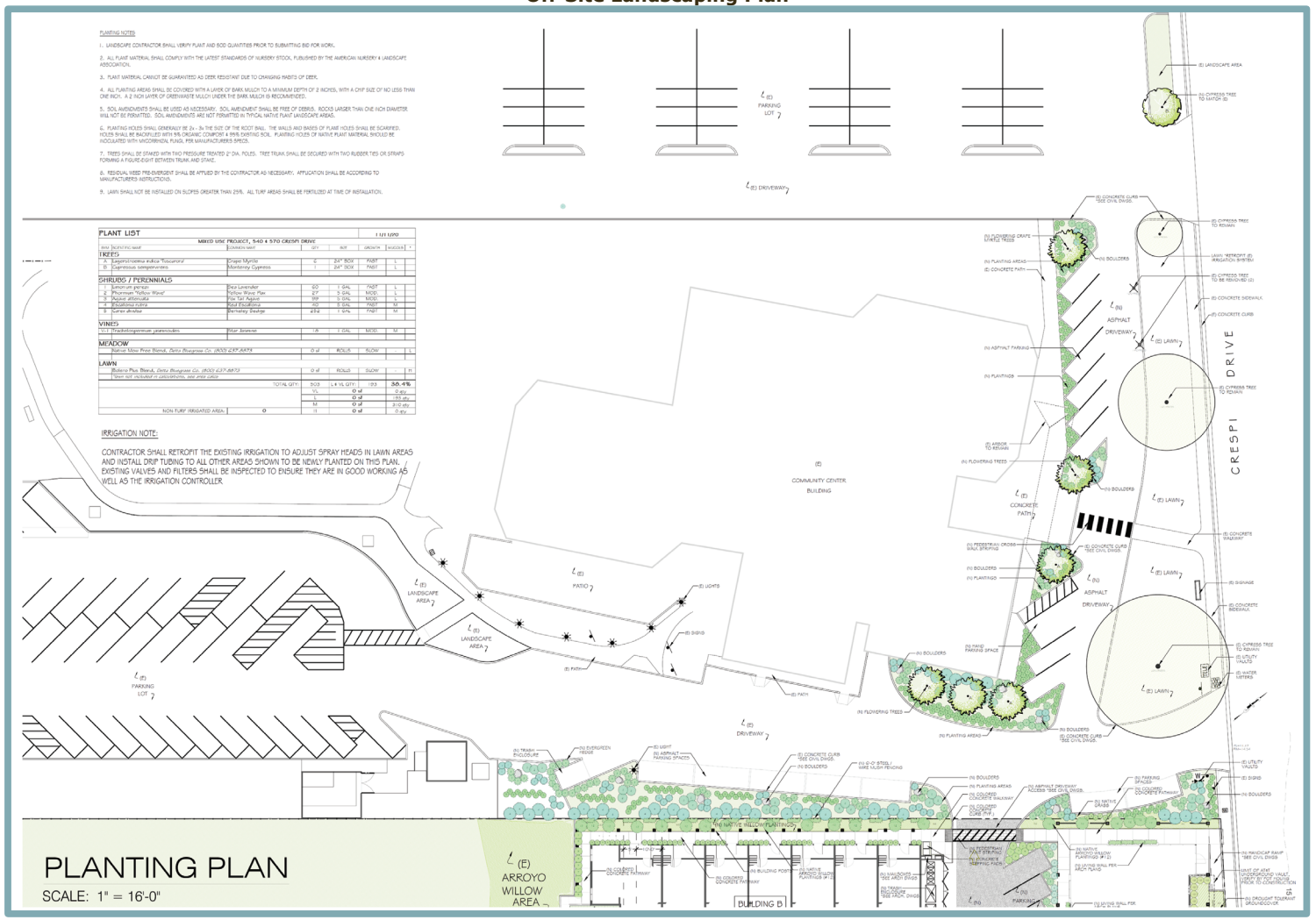
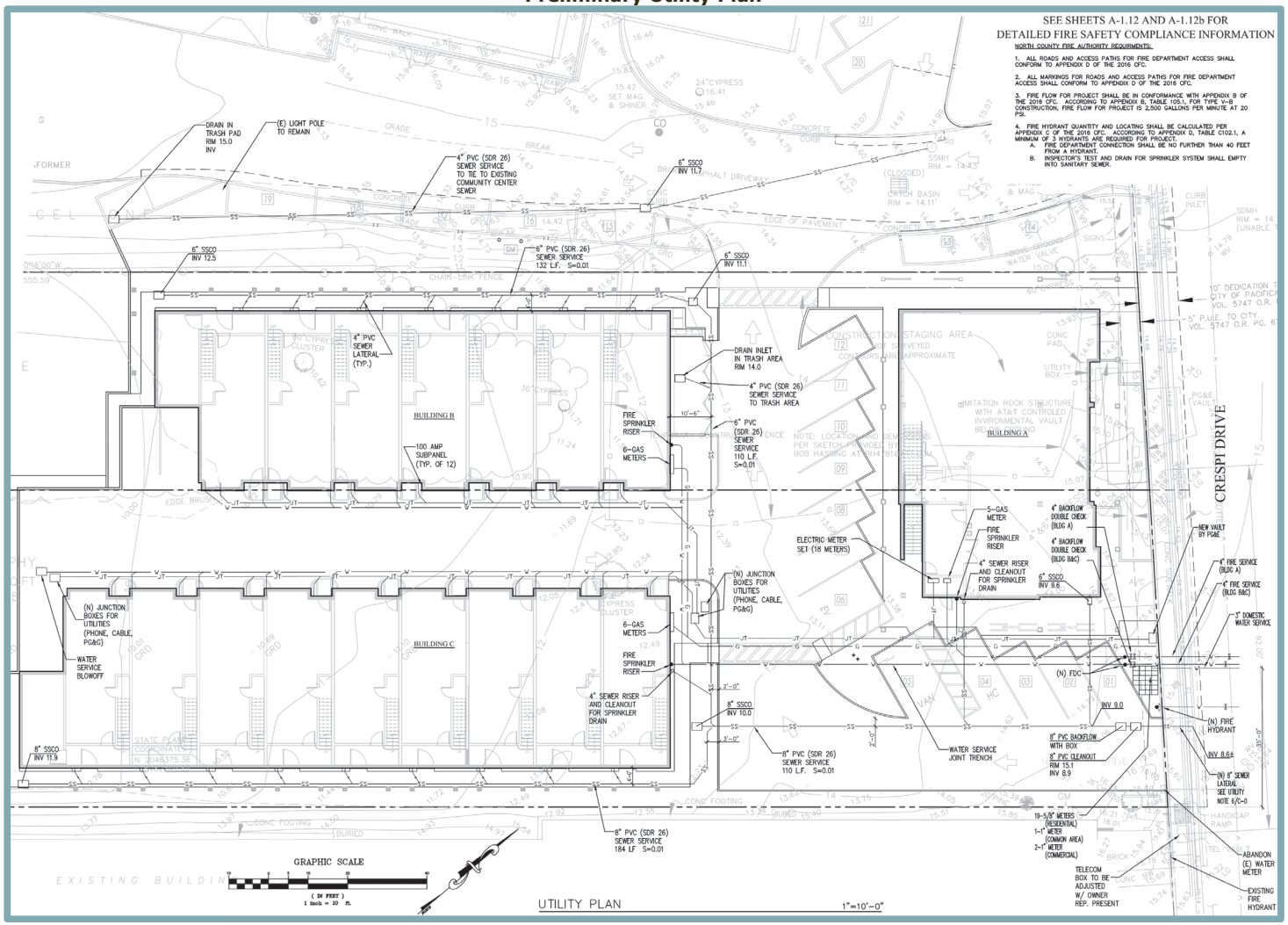


Figure 3-11
Preliminary Utility Plan



A new vault would be constructed by PG&E in the northern portion of the project site, near Building A, to provide electricity to the proposed structures. In addition, the proposed project would connect to existing telecommunications infrastructure in the project area.

All runoff from impervious areas within the project site, including all hardscape, parking areas, and driveways would be collected by new four-, six-, eight- and 10-inch storm drain pipes within the proposed driveway and parking areas (see Figure 3-12 and Figure 3-13). Runoff flowing through the storm drains would empty into proposed bioswales on the western and eastern boundaries of the site or be directed to a bioretention area in the southeast corner of the project site. Treated stormwater would either be discharged into the vacant land to the south of the development area or into the City's stormwater system through connection to an existing six-inch storm drain west of the site. An 18-inch emergency overflow riser would be installed in the western corner of the project site and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary (see Figure 3-13). The proposed driveway and parking area north of the existing Community Center would be a self-treating area.

Site Development Permit/Use Permit/Development Agreement

A Site Development Permit and an additional Use Permit would be required to allow a clustered housing development pursuant to Pacifica Municipal Code Section 9-4.2403. The project would also include approval of a Development Agreement consistent with Title 9, Chapter 4, Article 50 of the Pacifica Municipal Code, which would require the proposed project to: (1) provide affordable units; (2) make an affordable housing contribution to the City; (3) construct 17 parking spaces at the adjacent Community Center; and (4) install wetland signage.

Parking Exception/Sign Permit/Tree Permit

Based on the number of dwelling units and commercial square footage proposed, the Municipal Code would require the proposed project to include at least 58 parking spaces. As previously discussed, the proposed project would include a total of 47 spaces. Therefore, a Parking Exception would be required to allow an exception to the off-street parking requirements related to the number of parking spaces provided, as allowed pursuant to Sections 9-4.2824(a) and 9-4.5105(a).

Additionally, a Sign Permit would be required to ensure consistency with a master sign program prepared for the future commercial tenants of the project. The master sign program would be consistent with Pacifica Municipal Code Section 9-42907(b).

Finally, because the proposed project would include removal of on-site trees, a Tree Removal Permit would be required prior to removing any protected or City trees, as defined by the City's current tree protection ordinance.

3.7 REQUESTED DISCRETIONARY ACTIONS

Implementation of the proposed project would require the following discretionary actions by the City of Pacifica:

- Certification and adoption of the 570 Crespi Drive Project EIR and Mitigation Monitoring and Reporting Program;
- General Plan Amendment to redesignate the off-site improvement area from Public and Semi-Public and Park land uses to Mixed Use Center (MUC);

Figure 3-12
Preliminary Grading and Drainage Plan – Northeastern Portion

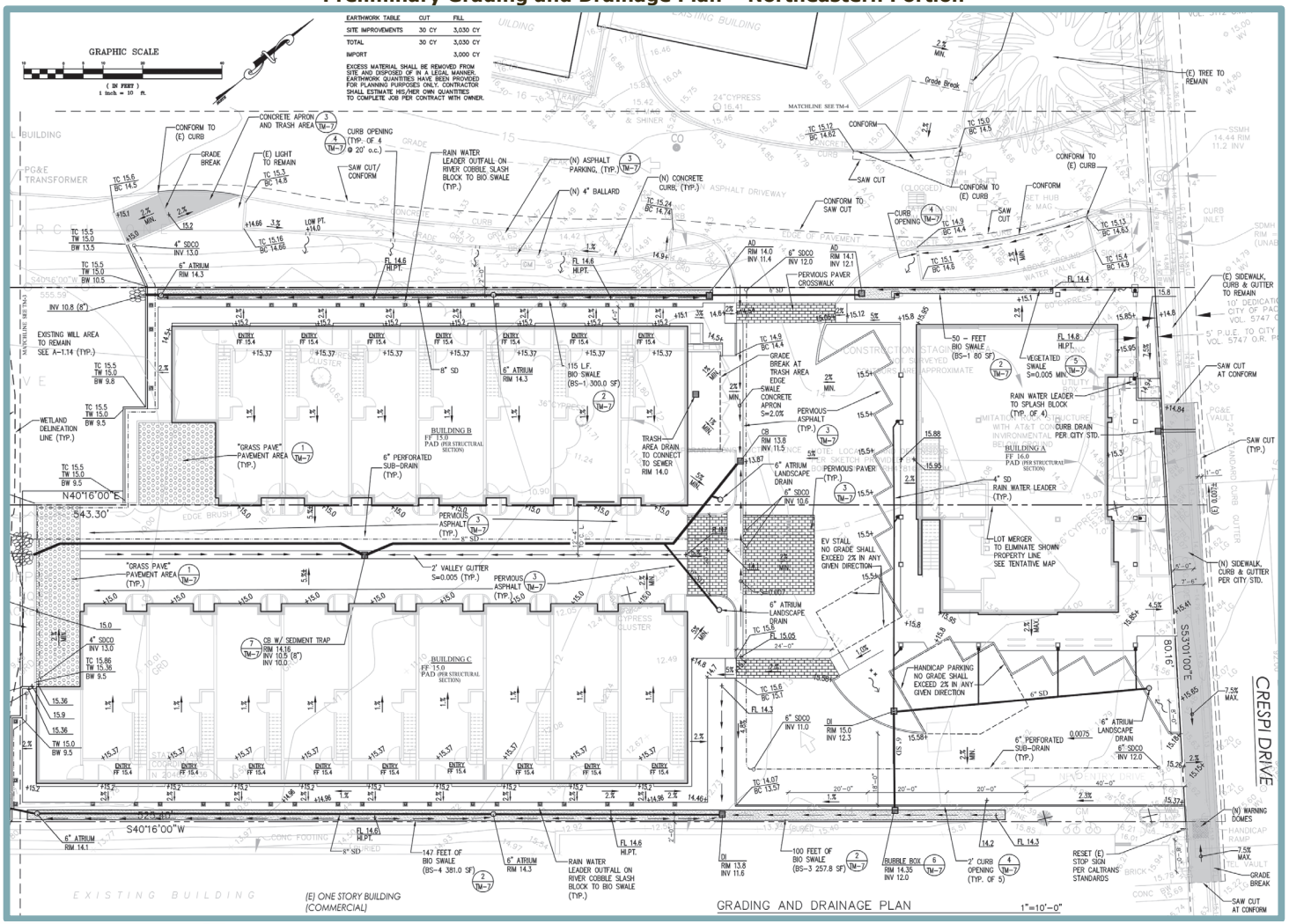
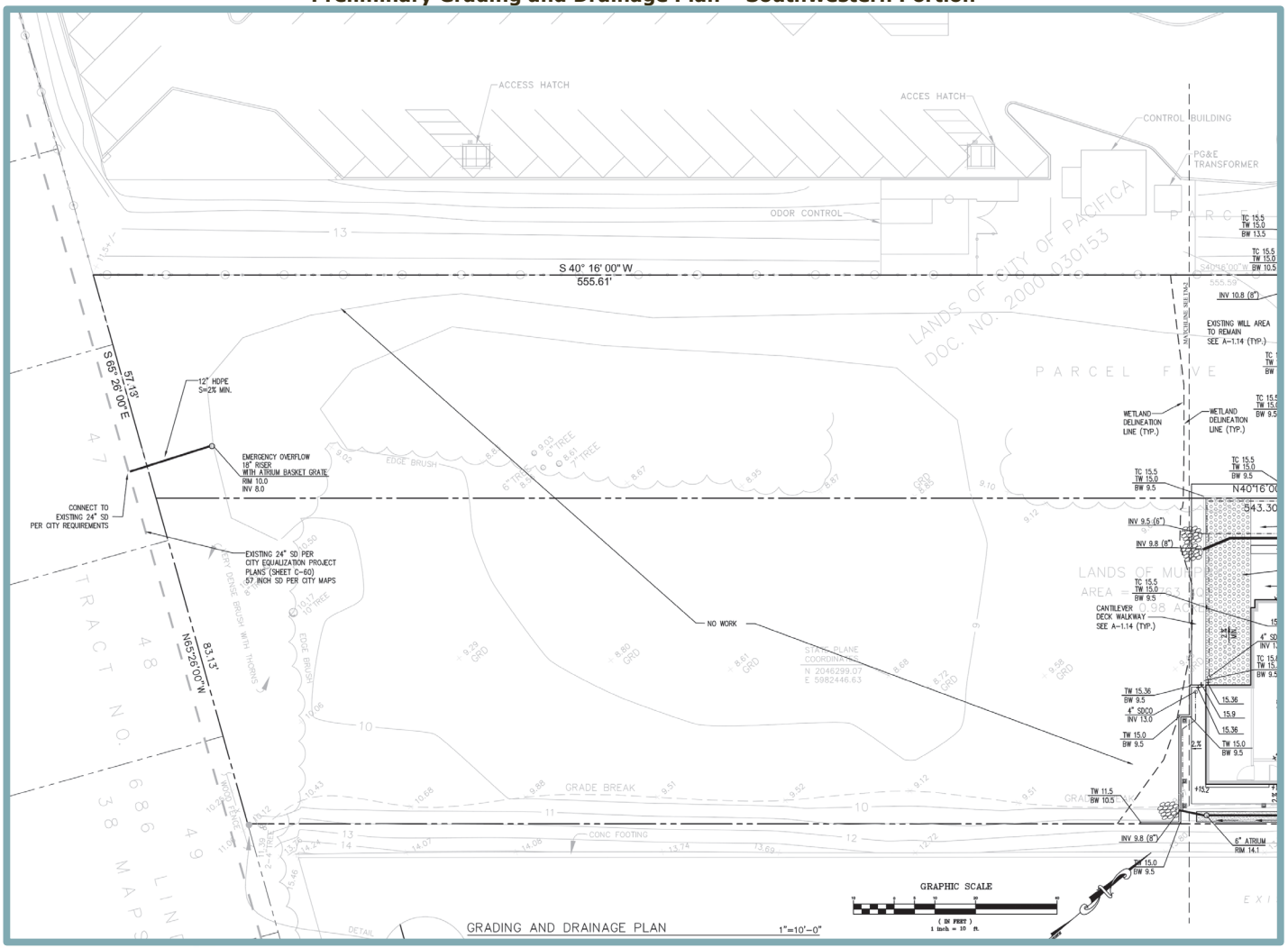


Figure 3-13
Preliminary Grading and Drainage Plan – Southwestern Portion



- Rezoning of the site from Controlled Manufacturing District (M-1) to Community Commercial (C-2);
- Zoning Text Amendment to allow residential uses in buildings that do not contain commercial uses in C-2 zoning district;
- Use Permit to allow residential uses within the C-2 zone;
- Tentative Subdivision Map to create new residential and commercial condominiums;
- Development Agreement to require certain public benefits and to provide certain developer benefits;
- Site Development Permit and a second Use Permit, the approval of which would allow the development of a clustered residential housing development;
- Parking Exception to allow an exception to the number of off-street parking spaces required;
- Sign Permit to allow a master sign program for commercial tenants;
- Lot Merger and/or LLA to merge APN 022-162-310 and a portion of APN 022-162-420; and
- Tree Removal Permit to authorize tree removal.

The proposed project would require the following discretionary approvals from other agencies:

- Clean Water Act Section 404 Permit (USACE); and
- Clean Water Act Section 401 Water Quality Certification/Waiver or Issuance of Waste Discharge Requirements (San Francisco Bay RWQCB).

The proposed project may also require approval of an Alternative Methods and Materials request by the North Country Fire Authority (NCFA).

4.0 Introduction to the Analysis

4.0 INTRODUCTION TO THE ANALYSIS

4.0.1 INTRODUCTION

The technical chapters of this EIR include the analysis of the potential impacts of buildout of the proposed project on a range of environmental issue areas. Chapters 4.1 through 4.3 describe the focus of the analysis, references and other data sources for the analysis, the environmental setting related to each specific issue area, project-specific impacts and mitigation measures, and the cumulative impacts of the project in combination with other development within the cumulative setting for each issue area. The format of each of the technical chapters is described at the end of this chapter. All technical reports are either attached to this EIR, available in person at the City of Pacifica, Planning Division (located at 1800 Francisco Boulevard, Pacifica, CA 94044) by request, or available online at the following page: cityofpacifica.org/departments/community-development/planning-division/environmental-documents.

4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (PRC Section 21068). The CEQA Guidelines require that the determination of significance be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within each technical chapter and are consistent with significance criteria set forth in the CEQA Guidelines or as based on the professional judgment of the EIR preparers.

Significance Criteria

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." In addition, the Guidelines state, "An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (CEQA Guidelines Section 15382).

As presented in Section 4.0.5 below, the level of significance of an impact prior to mitigation is included at the end of each impact discussion throughout the technical chapters of this EIR. The following levels of significance prior to mitigation are used in this EIR:

1) Less than Significant: Impacts that may be adverse, but that do not exceed the specified thresholds of significance;
2) Significant: Impacts that exceed the defined standards of significance and require mitigation;
3) Less than Cumulatively Considerable: Where cumulative impacts have been identified, but the project's incremental contribution towards the cumulative impacts would not be considered significant; and
4) Cumulatively Considerable: Where cumulative impacts have been identified and the project's incremental contribution towards the cumulative impact would be considered significant.

If an impact is determined to be significant or cumulatively considerable, mitigation is included, if available, in order to reduce the specific impact to the maximum extent feasible. A statement of the level of significance of an impact after mitigation is also included in each impact discussion throughout the technical chapters of this EIR. The following levels of significance after implementation of mitigation are used in the EIR:

1) Less than Significant: Impacts that exceed the defined standards of significance but can be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures;
2) Less than Cumulatively Considerable: Where the project's incremental contribution towards cumulative impacts would be eliminated or reduced to a less than cumulatively considerable level through the implementation of feasible mitigation measures; and
3) Significant and Unavoidable Impact: An impact (project-level or cumulative) that cannot be eliminated or reduced to a less-than-significant or less than cumulatively considerable level through the implementation of feasible mitigations measures.

Each environmental area of analysis uses a distinct set of significance criteria. The significance criteria are identified at the beginning of the Impacts and Mitigation Measures section in each of the technical chapters of this EIR. Although significance criteria are necessarily different for each resource considered, the provided significance levels ensure consistent evaluation of impacts for all resource areas evaluated.

4.0.3 ENVIRONMENTAL ISSUES DISMISSED IN THE INITIAL STUDY

The Initial Study prepared for the proposed project (included in Appendix A to this EIR) includes a detailed environmental checklist addressing a range of technical environmental issues. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as "no impact," "less than significant," "less than significant with mitigation incorporated," and "potentially significant."

Impacts identified in the Initial Study as less than significant with mitigation incorporated, less than significant, or no impact are summarized below. All remaining issues identified in the Initial Study as potentially significant are discussed in the subsequent technical chapters of this EIR.

- *Aesthetics (All Checklist Questions):* The proposed project site is not located within the vicinity of a designated scenic vista and would not damage scenic resources. In addition, the Initial Study concluded that impacts related to conflicts with applicable zoning and other regulations governing scenic quality, as well as the introduction of new sources of light and glare would be less than significant. Overall, the proposed project would result in impacts that are *less than significant* related to aesthetics.

- *Agriculture and Forest Resources (All Checklist Questions):* The project site is identified by the California Department of Conservation Farmland Mapping and Monitoring Program as Urban and Built-Up Land. In addition, the site is not under a Williamson Act contract, is not zoned for agricultural uses, is not considered forest land or timberland, and is not zoned for Timberland Production. Therefore, the proposed project would have *no impact* or a *less-than-significant* impact related to agricultural and forest resources.

- *Air Quality (All Checklist Questions):* The applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because the proposed project

would not result in construction-related or operational emissions of criteria air pollutants in excess of Bay Area Air Quality Management District's (BAAQMD) thresholds of significance, conflicts with or obstruction of the implementation of regional air quality plans would not occur. In addition, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Due to the size of the proposed project and the anticipated number of trips generated by the project, the proposed project would not be expected to expose sensitive receptors to substantial concentrations of localized carbon monoxide (CO). The proposed project would not involve any land uses or operations that would be considered major sources of toxic air contaminants (TACs), including diesel particulate matter (DPM), and construction would not result in cancer risk, acute hazards, or chronic hazards in excess of BAAQMD's standards. As such, the proposed project would not generate any substantial pollutant concentrations. In addition, compliance with all established BAAQMD regulations and rules would ensure construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people. Overall, the proposed project would result in impacts that are *less than significant* with regard to the aforementioned impacts related to air quality.

- *Biological Resources (Checklist Question f):* Adopted Habitat Conservation Plans or Natural Conservation Community Plans covering the project site do not exist. Therefore, the proposed project would not conflict with the provisions of such a plan, and *no impact* would occur. It should be noted that all other potential impacts related to biological resources are analyzed in Chapter 4.1, Biological Resources, of this Draft EIR.

- *Cultural Resources (All Checklist Questions):* The project site is currently vacant, and, thus, does not contain any permanent structures which could be considered historical resources pursuant to Section 15064.5 of the CEQA Guidelines. Additionally, portions of the project site that would be developed as part of the project have been subject to previous disturbance. According to the records search of the California Historic Resources Information System (CHRIS), the project site does not contain any documented archaeological resources. However, the California Inventory of Historic Resources lists one of the Portola Expedition camps in close proximity to the project site. In addition, Portola's San Francisco Bay Discovery site is located in close proximity to the project site. Based on such, the project site has a moderate potential for unrecorded archaeological resources to occur. While the potential exists for the proposed project to result in the uncovering of previously unknown historical or archaeological resources, including human remains, during ground-disturbing activities associated with project construction, the Initial Study includes mitigation sufficient to ensure that, in the event that any such resources are encountered during construction, significant impacts would not occur. Overall, the proposed project would result in impacts that are *less than significant with mitigation incorporated* with regard to the aforementioned impacts related to cultural resources.

- *Energy (All Checklist Questions):* The temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand. During operation, the proposed project would be subject to all relevant provisions of the most recent update of the California Building Standards

Code (CBSC), which requires efficient building design and the use of renewable sources of energy. In addition, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. Finally, future residents/commercial tenants would have access to electricity generated from renewable sources through Peninsula Clean Energy. Therefore, construction and operations of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Overall, the proposed project would result in impacts that are *less than significant* with regard to the aforementioned impacts related to energy.

- *Geology and Soils (All Checklist Questions):* Given the vicinity of the project site to the San Andreas Fault System, the project site could be subject to strong ground shaking due to a major earthquake in one of the above-listed fault zones. However, conformance with the appropriate engineering standards set forth by the California Building Standards Code (CBSC) would ensure that impacts related to seismic surface rupture or strong seismic ground shaking would be less than significant. In addition, the development of the proposed project would not result in adverse impacts related to landslides and lateral spreading. However, a rigid foundation is required to minimize any potential movements due to liquefaction, expansive soils, and subsidence/settlement. Therefore, the Initial Study includes mitigation sufficient to ensure that such impacts would be reduced to a less-than-significant level. Furthermore, while the potential exists for the proposed project to result in the uncovering of previously unknown paleontological resources, the Initial Study includes mitigation sufficient to ensure that, in the event that any such resources are encountered during construction, significant impacts would not occur. Finally, because the proposed project would connect to existing City sewer lines in the project vicinity, the construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the proposed project, and no impact would occur regarding the capability of soil to adequately support the use of such systems. Overall, the proposed project would have *no impact,* or result in impacts that are *less than significant,* or *less than significant with mitigation incorporated* with regard to the aforementioned impacts related to geology and soils.

- *Hazards and Hazardous Materials (All Checklist Questions):* Residential and the commercial uses permitted by the C-2 zoning district are not associated with the routine use, transport, or disposal of hazardous materials, with the exception of common household cleaning products, fertilizers, and herbicides. However, such materials would be used in accordance with label instructions and all applicable regulations. The project site was previously developed with a single-family residence and a mechanic shop. Although not documented at the project site, activities within the project site may have included the use of fuels, coolants, or other chemicals associated with the mechanic shop. Operations associated with the mechanic shop could result in concentrations of residual chemicals being present in the near surface soil if use or storage of chemicals has occurred. Although evidence of contamination does not exist, past activities on-site associated with the mechanic shop could have resulted in soil contamination within the project site. However, the Initial Study includes mitigation to ensure any related impacts associated with hazardous materials would be reduced to less-than-significant levels. Such mitigation would ensure that, although the project site is located within a quarter-mile of Cabrillo Elementary School, the project would not create hazardous emissions or handle hazardous materials, substances, or waste.

In addition, the project site is not identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The project site is not located within two miles of a public airport or within a safety zone as identified by an airport land use plan, and would not result in a safety hazard for people working in the project area. Furthermore, development of the proposed project would not expose people or structures to the risk of loss, injury, or death involving wildland fires. The proposed project could impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because the required emergency access width of 26 feet would not be met with the proposed site plan. As such, the Initial Study includes mitigation to require the access road to be at least 26 feet wide, thereby reducing impacts to a less-than-significant level. Overall, the proposed project would have *no impact*, or result in impacts that are *less than significant* or *less than significant with mitigation incorporated* related to hazards and hazardous materials.

- *Hydrology and Water Quality (All Checklist Questions):* Because construction activities on the northern portion of the project site and the off-site improvement area would disturb greater than one acre of land, construction activities would be subject to the San Mateo Countywide Pollution Prevention Program, which provides a list of construction best management practices (BMPs). Should the project applicant fail to implement BMPs, pollutants from construction activities could runoff into local waterways and degrade downstream water quality, particularly during heavy winter rain events. Therefore, the Initial Study includes mitigation sufficient to ensure the project would not violate water quality standards or waste discharge requirements, substantially degrade water quality, or result in a conflict with a water quality control plan. Groundwater supplies would not be used to serve the proposed project, and, therefore, the proposed project would not deplete groundwater supplies or interfere with groundwater recharge. Compliance with the City's stormwater control and water quality standards would ensure the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. In addition, the proposed project would not impede or redirect flood flows or pose a risk related to the release of pollutants due to project inundation caused by flooding, tsunami or seiche. Overall, the proposed project would result in impacts that are *less than significant* or *less than significant with mitigation incorporated* related to hydrology and water quality.

- *Land Use and Planning (All Checklist Questions):* The proposed project would not physically divide an established community. Although the project would include a General Plan, Rezone, and a Zoning Text Amendment, the types of uses and building forms allowed would be consistent with the existing C-2 zoning standards. Thus, approval of the requested entitlements would not result in any significant environmental impacts on the project site or surrounding area, or conflict with any plans or policies adopted for the purpose of avoiding an environmental effect. In addition, the type and intensity of the proposed uses has been generally anticipated by the City. Overall, the proposed project would result in impacts that are *less than significant* related to land use and planning.

- *Mineral Resources (All Checklist Questions):* The State Division of Mines and Geology indicates that the project site does not contain any identified mineral resources of regional or Statewide significance (Mineral Resource Zone 2). The City's adopted General Plan recognizes the existence of mineral resources at the Rockaway Quarry and Picardo

Ranch (now Millwood Ranch) and cites unmined limestone deposits underlying development elsewhere in the City, but does not specifically refer to the project site. Therefore, the proposed project would not result in a significant loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Furthermore, the City's General Plan does not identify the project site as being a locally-important mineral resource recovery site. Therefore, the proposed project would result in *no impact* related to mineral resources.

- *Noise (All Checklist Questions)*: Project construction could result in a maximum increase in noise of up to nine A-weighted decibels (dBA) above existing ambient noise levels. The increase of nine dBA would not exceed the Caltrans 12 dBA increase criteria. Additionally, noise associated with construction activities would occur intermittently and would be limited to the hours specified in Section 8-1.08 of the City's Municipal Code. The City of Pacifica would ensure that project construction complies with Section 8-1.08 of the Municipal Code as a condition of project approval. Furthermore, construction activities would be exempted from the noise standards by the City, provided they take place between the specified hours. As a result, a less-than-significant impact would occur during project construction. The maximum increase in traffic noise at the nearest sensitive receptor is predicted to be 0.1 dBA. Therefore, the proposed project would not result in the generation of a substantial permanent increase in traffic noise levels. Because construction of the proposed project could expose people to or generate excessive groundborne vibration or groundborne noise levels associated with the use of pile drivers, the Initial Study includes mitigation prohibiting such activity. Finally, the project site is not located within two miles of a public or private airport, and, thus, would not expose people residing or working in the project area to excessive noise levels associated with airports. Overall, the proposed project would result in impacts that are *less than significant* or *less than significant with mitigation incorporated* related to noise.

- *Population and Housing (All Checklist Questions):* Parcel 1 is currently undeveloped and Parcel 2 is not developed with any residential structures; thus, the proposed project would not result in the displacement of existing housing or residents. Development of the proposed project is anticipated to result in a 0.14 percent increase in the City's population, which would not be considered substantial growth. The project would not result in any indirect population growth from extension of major infrastructure because adequate utility infrastructure already exists in the project area to support the proposed project. Therefore, the population growth associated with the proposed project has been previously anticipated by the City and evaluated in the General Plan EIR. Therefore, the proposed project would result in a *less-than-significant* impact related to population and housing.

- *Public Services (All Checklist Questions):* The North Country Fire Authority (NCFA) would provide adequate fire protection services to the proposed project, which would include adequate fire safety design elements. The minor population growth associated with the proposed project would not necessitate the construction of new or expanded facilities. Additionally, the proposed project is located within existing police patrol routes and service areas. Furthermore, the proposed project would be subject to the payment of development impact fees pursuant to Chapter 14 of the City's Municipal Code related to public facilities, impact fees applied to new development by the Pacifica School District and Jefferson Union High School District, and park impact fees established by Chapter 19 of the City's Municipal Code. Finally, due to the relatively small project size, implementation of the proposed project would not result in a substantial increase in demand for library services.

Therefore, the proposed project would not require the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services, police protection services, schools, parks, libraries, or other public facilities. Overall, the proposed project would result in a *less-than-significant* impact with regard to the aforementioned impacts related to public services.

- *Recreation (All Checklist Questions):* Recreational or park facilities are not proposed as part of the project. However, the project would be subject to payment of a park impact fee pursuant to Chapter 19 of the City's Municipal Code to provide funding for future parkland or recreational facilities. Due to the relatively small project size and the proximity to existing recreational facilities in the City, development of the proposed project is not expected to substantially increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Overall, a *less-than-significant* impact would occur related to recreation.

- *Tribal Cultural Resources (All Checklist Questions)*: Portions of the project site that would be developed as part of the project, as well as the off-site improvement area, have been previously and recently disturbed. Additionally, recent construction of an equalization basin in the southern portion of 540 Crespi Drive included substantial excavation, and tribal cultural resources were not identified during such ground disturbance. Due to the previous disturbance of the site, the probability of finding tribal cultural resources on the surface of the site is unlikely. While previously undiscovered tribal cultural resources could be uncovered during ground-disturbing activities associated with construction of the proposed project, the Initial Study includes mitigation sufficient to ensure that, in the event that any such resources are encountered during construction, significant impacts would not occur. Overall, the proposed project would result in impacts that are *less than significant with mitigation incorporated* with regard to impacts related to tribal cultural resources.

- *Utilities and Service Systems (All Checklist Questions)*: Sufficient water supplies are available to adequately serve the proposed project during normal, dry, and multiple dry years. The City's wastewater facility also has sufficient remaining available capacity to serve the proposed project, and residents are required to pay an annual sewer charge based on water consumption rates for each unit, pursuant to Chapter 6 of the City Municipal Code. Such charges would help to ensure that adequate capacity is available to serve the project's demand for services. Stormwater runoff from impervious surfaces associated with the proposed project would be treated on-site prior to discharge, and implementation of mitigation in the Initial Study would ensure that BMPs are implemented during construction activities to reduce pollutants to the maximum extent practicable. Finally, electricity and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity without major upgrades to, or extension of, existing infrastructure. The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Furthermore, adequate wastewater capacity would be available to serve the project's projected demand in addition to existing commitments. Finally, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal

needs and would comply with federal, State, and local statutes and regulations related to solid waste. Overall, a *less-than-significant* impact would occur related to utilities and service systems.

- *Wildfire (All Checklist Questions):* According to the California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, the project site is not located within or adjacent to a State Responsibility Area or a Very High Fire Hazard Severity Zone. Furthermore, the project site is surrounded by urban development and would include the removal of a portion of the on-site vegetation, which would help prevent the spread of wildfire within the project area. Thus, the proposed project would not be expected to be subject to or result in substantial adverse effects related to wildfires, and a *less-than-significant* impact would occur.

4.0.4 ENVIRONMENTAL ISSUES ADDRESSED IN THIS EIR

The EIR provides the analysis necessary to address the environmental impacts of the proposed project. The following environmental issues are addressed in separate technical chapters of this EIR:

- Biological Resources;
- Greenhouse Gas Emissions; and
- Transportation.

See Section 5.3, Cumulative Impacts, of Chapter 5, Statutorily Required Sections, for additional information on the scope of the cumulative impact analysis for each environmental issue addressed in the EIR.

4.0.5 TECHNICAL CHAPTER FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the chapter. The introduction is followed by a description of the project's **existing environmental setting** pertaining to that particular environmental issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion, which contains the **standards of significance**, followed by the **method of analysis**. The standards of significance section includes references to the specific checklist questions consistent with Appendix G of the CEQA Guidelines. The **impacts and mitigation measures** discussion includes impact statements prefaced by a number in bold-faced type (for both project-level and cumulative analyses). An explanation of each impact and an analysis of the impact's significance follow each impact statement (see below), followed by all mitigation measures pertinent to each individual impact. The degree of relief provided by identified mitigation measures is also presented. An example of the format is shown below.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance.

4.X-1 Statement of Project-Specific Impact

Discussion of impact for the proposed project in paragraph format.

Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-significant level with implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after mitigation is included immediately preceding the mitigation measures.

4.X-1(a) *Required mitigation measure(s) presented in italics and numbered in consecutive order.*

4.X-1(b) *Required additional mitigation measure, if necessary.*

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on implementation of the proposed project in combination with cumulative development within the applicable area or region.

4.X-2 Statement of Cumulative Impact

Discussion of cumulative impacts for the proposed project in paragraph format.

As discussed in detail in Chapter 5, Statutorily Required Sections, of the EIR, the cumulative setting for the proposed project is generally considered to be development anticipated to occur upon buildout of the proposed project, as well as buildout of the City of Pacifica General Plan.

Statement of ***level of significance*** of cumulative impact prior to mitigation is included at the end of each impact discussion. If an impact is determined to be cumulatively considerable, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less than cumulatively considerable level with the implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after mitigation is included immediately preceding the mitigation measures.

4.X-2(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.X-2(b) *Required additional mitigation measure, if necessary.*

4.1 Biological Resources

4.1 BIOLOGICAL RESOURCES

4.1.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the project site. The chapter describes the proposed project's potential impacts to biological resources and identifies measures to eliminate or substantially reduce impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project region. The information contained in the analysis is primarily based on the Biological Constraints Analysis (Appendix C),[1] supplemental response letters responding to public comments (including comments from the California Department of Fish and Wildlife [CDFW]) and peer reviews conducted by the City of Pacifica,[2,3,4,5] and the Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis (Appendix D)[6] prepared for the proposed project by Wood Biological Consulting (WBC). Further information was sourced from the City of Pacifica General Plan 2040[7] and the City of Pacifica General Plan Update and General Plan Update EIR.[8]

4.1.2 EXISTING ENVIRONMENTAL SETTING

The following sections describe the regional biological setting in which the project site is located, the biological setting of the project site, and the special-status species known to occur within the project site and surrounding environs.

Regional Setting

The project site is located just south of Crespi Drive in the City of Pacifica, California (see Figure 3-1 and Figure 3-2 in the Project Description chapter of this EIR). The City lies in the northwestern portion of the Bay Area's peninsula climatological sub-region, in a location where generally strong winds emanate from the ocean, and within the San Francisco-Oakland-San Jose metropolitan area – the northern end of the City is approximately 10 miles from downtown San Francisco. The City experiences a Mediterranean climate, similar to many coastal areas within the State. Summers are typically comfortable and arid, with mostly clear skies, and winters are generally short, cold, wet, windy, and partly cloudy. The average annual high temperature in the City of Pacifica is 64 degrees Fahrenheit, and the annual average low temperature is 49 degrees

1 Wood Biological Consulting. *Biological Constraints Analysis – Updated*. August 17, 2020.
2 Wood Biological Consulting. *Response Letter: Determination of Incomplete Application – File No. 2016-004 Amendment to Biological Constraints Analysis 570 Crespi Drive, Pacifica CA (APN 022-162-310)*. February 3, 2021.
3 Wood Biological Consulting. *Response Letter: File No. 2016-004, 570 Crespi Drive, Pacifica CA (APN 022-162-310) Amendment to Biological Constraints Analysis*. March 9, 2021.
4 Wood Biological Consulting. *Response Letter: File No. 2016-004, 570 Crespi Drive, Pacifica CA (APN 022-162-310) 570 Crespi – IS/MND Information Needed*. September 22, 2021.
5 Wood Biological Consulting. *Supplemental Memorandum: Biological Resources, 570 Crespi Project*. December 4, 2024.
6 Wood Biological Consulting. *Updated Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis 570 Crespi Avenue, Pacifica CA*. May 31, 2024.
7 City of Pacifica. *City of Pacifica General Plan 2040.* Adopted July 11, 2022.
8 City of Pacifica. *City of Pacifica General Plan Update and Sharp Park Specific Plan Final Environmental Impact Report.* Adopted May 25, 2022.

Fahrenheit. Approximately 29.5 inches of precipitation falls annually, with the majority of rainfall between October and April.

Much of the land to the south and southeast of the City is preserved as units of the Golden Gate National Recreation Area, State and County parks, and the San Francisco watershed. Rural and agricultural land is prevalent to the south. The Pacific Ocean borders the City to the west. Access to the City is primarily from State Route (SR) 1 and SR 35. Land west of SR 1 in the City is part of the State-designated Coastal Zone, which also includes a small amount of land to the east in the vicinity of Shelldance Nursery. The City's varied topography creates a wide range of habitats, including intertidal areas, beaches, ridges, coastal headlands, woodlands, grasslands, coastal scrub, creeks, and wetlands. Most natural vegetation in the valley and canyon bottoms has been converted by urban development. However, intact native habitats persist along the riparian corridors of San Pedro Creek, Calera Creek, Rockaway Creek, and Milagra Creek, as well as on steep slopes.

Project Setting

The study area analyzed in the Biological Constraints Analysis includes the project site, as well as the off-site improvement area adjacent to the Pacifica Community Center. The project site is currently undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. It should be noted that the western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area. The northern portion of the project site supports several large Monterey cypress (*Hesperocyparis macrocarpa*) trees with an understory of predominantly non-native herbaceous vegetation. The southern portion of the project site is slightly lower in elevation, and gradually becomes dominated by perennial wetland vegetation, such as willows, cattails, and sedges. The project site ranges from approximately 15 feet in elevation, relative to a City benchmark in Crespi Drive, at the northeastern end of the project site, to approximately nine feet at the southwestern boundary. The off-site area adjacent to the Pacifica Community Center that is included as part of the study area currently includes a driveway, sidewalk, several trees, and ruderal grassland.

Surrounding land uses include the Pacifica Community Center and associated parking lot and rain garden, Pacifica Skatepark, and SR 1 to the west; commercial businesses and Ocean View Senior Apartments to the north, across Crespi Drive; the Cabrillo Elementary School and commercial businesses to the east; and single-family residences to the south.

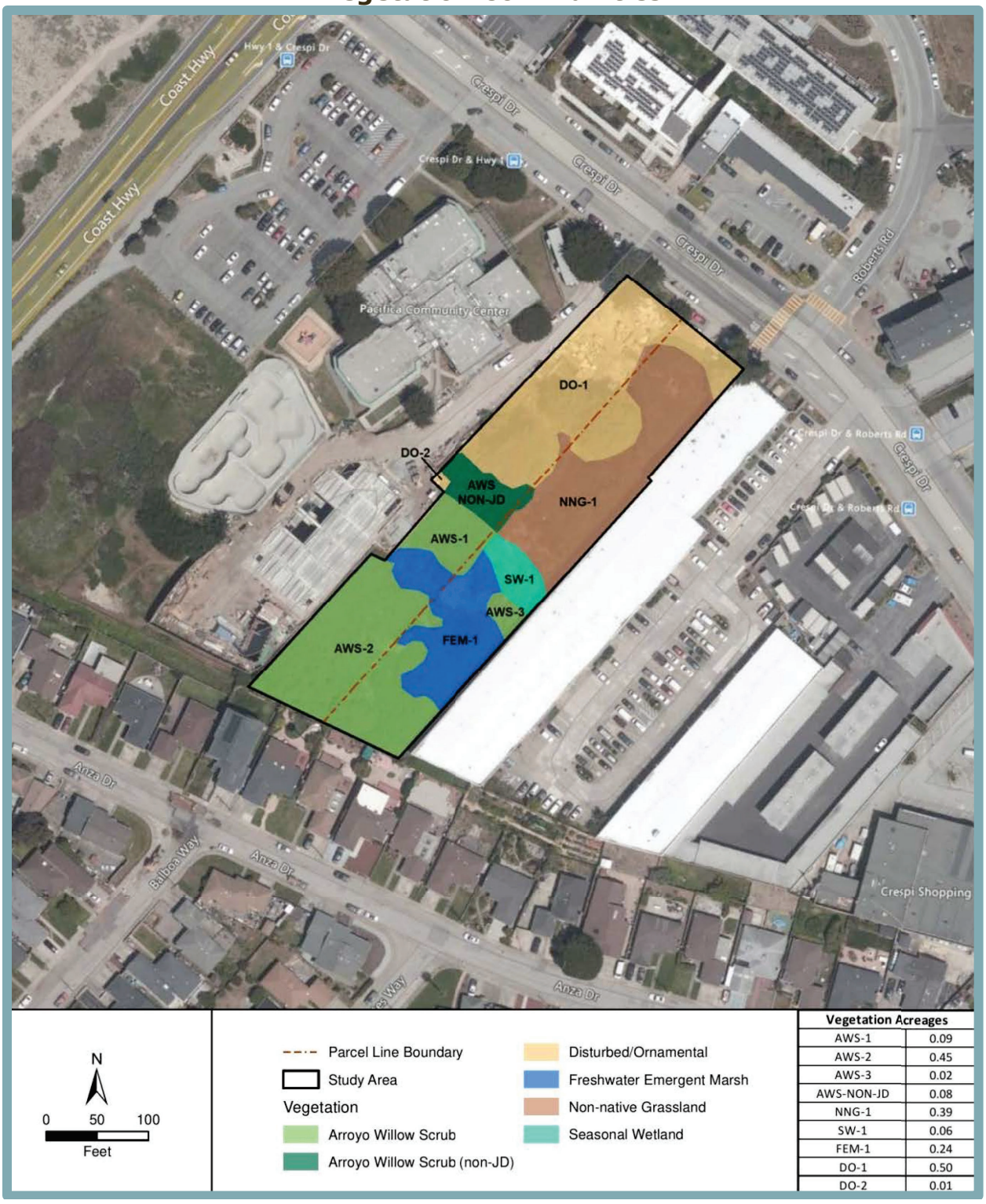
Vegetation Communities Within the Study Area

Vegetation within the study area consists of arroyo willow scrub, emergent marsh, seasonal wetland, non-native annual grassland, and disturbed and ornamental habitats (see Figure 4.1-1). The study area's vegetation types are discussed further below.

Arroyo Willow Scrub

As shown in Figure 4.1-1, willow scrub, dominated by arroyo willow (*Salix lasiolepis*), covers most of the southern portion of the study area on both parcels. Willow scrub also occurs in smaller stands along the western and eastern project site boundaries. The willows form a dense and impenetrable thicket with few associated plant species. The willow scrub is almost entirely within the delineated wetland boundary; the exception is at the northern extent, where soils and hydrology near the edge of the willows failed to meet wetland criteria.

Figure 4.1-1
Vegetation Communities



Vegetation Acreages	
AWS-1	0.09
AWS-2	0.45
AWS-3	0.02
AWS-NON-JD	0.08
NNG-1	0.39
SW-1	0.06
FEM-1	0.24
DO-1	0.50
DO-2	0.01

Additionally, in the southern portion of the study area, the topography rises slightly because of fill placed for the backyards of single-family residences on Anza Drive. Although willow canopy extends to the parcel boundary, the willows are rooted in the lower part of the topographic depression, away from the fence line. In the southwestern corner of the study area, the topography rises more abruptly toward the berm that separates the project site from the Pacifica Community Center parking lot and rain garden. Non-native ngaio tree (*Myoporum laetum*), an upland species, replaces willow where the ground surface level is higher.

Emergent Marsh

Emergent marsh occupies a shallow topographic depression in the middle part of the study area (see Figure 4.1-1), corresponding with the area with shallow ponded water in the winter. Seasonally high groundwater presumably persists, resulting in a predominance of emergent marsh plant species, such as Baltic rush (*Juncus balticus*), broadleaf cattail (*Typha latifolia*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), and dotted smartweed (*Persicaria punctata*), among others. All emergent marsh area is within the delineated wetland boundary.

Seasonal Wetland

Seasonal wetland occupies a narrow transitional band between the upland and emergent marsh and arroyo willow scrub (see Figure 4.1-1). The vegetation includes species that occupy the margins of the emergent marsh, but also some of the non-native annual grassland species.

Non-Native Annual Grassland

Non-native grassland vegetation is present on the majority of the northern part of the study area, including the former residence site (see Figure 4.1-1). Dominant plant species include annual grasses, such as bromes (*Bromus diandrus, B. hordeaceus*), slender oats (*Avena barbata*), hare barley (*Hordeum murinum* ssp. *leporinum*), velvet grass (*Holcus lanatus*), and Italian ryegrass (*Festuca perennis*), with various non-native broad-leaf herbaceous species. Non-native annual grassland plant species also occur within the area mapped as seasonal wetland within the delineated wetland boundary, where the species appear to be expanding down the topographic gradient in response to drier soil conditions following groundwater pumping during construction of the City's Wet Weather Equalization Basin.

Disturbed and Ornamental

Disturbed habitat includes land cleared of vegetation or lands that have undergone frequent or extensive alteration to the extent that the site is dominated by non-native plant species. Disturbed habitat also includes areas subject to periodic vegetation management, such as mowing or brush clearing, which preclude the re-establishment of native vegetation communities. To the west of the study area, a parking area adjacent to Crespi Drive that is used by beach visitors and a gravel staging area used during construction of the Wet Weather Equalization Basin are disturbed habitat (see Figure 4.1-1).

Ornamental vegetation consists of maintained and unmaintained landscaping using native and non-native plants. Within the study area, several large Monterey cypress trees are remnants of landscaping associated with the former residence in the northern portion of the study area. An additional area of ornamental vegetation located adjacent to the Pacifica Community Center, within the off-site improvement area, is included within the study area. None of the ornamental vegetation is within the delineated wetland boundary.

Wetlands

Streams or other surface waters are not located within the study area. All aquatic resources in the study area are wetlands. Table 4.1-1 below summarizes the areas of wetlands and non-wetlands (uplands) in the study area. All areas are preliminary and subject to verification by the U.S. Army Corp of Engineers (USACE) if proposed project activities would result in placement of fill into aquatic resources determined to be jurisdictional.

Table 4.1-1
Wetlands and Uplands in the Study Area

Feature Type	Wetland	Upland	Total
	Acres		
Arroyo willow scrub	0.460	0.090	0.550
Emergent marsh	0.240	0.000	0.240
Seasonal wetland	0.060	0.000	0.060
Non-native annual grassland	0.000	0.400	0.400
Disturbed and ornamental	0.000	0.980	0.980
Total	**0.760**	**1.470**	**2.230**

Source: Wood Biological Consulting, 2024.

The northern wetland boundary is inferred from the location of one sample point where all three wetland criteria were met (sample point 2A as shown on Figure 4.1-2) and two sample points where direct evidence of wetland hydrology is lacking, but could be inferred from soil indicators (sample points 1A and 3B). The latter two points are considered to be non-wetland, but on the boundary. All three points are located at or below the 10-foot contour, as shown on a topographic survey of the study area. The arroyo willow scrub vegetation type is bisected by the wetland boundary, resulting in a portion of arroyo willow scrub that meets the wetland criteria and a portion that is considered upland. Seasonal wetland is mapped in the transitional zone, which is consistent with the interpretation that site hydrology has changed toward drier conditions since groundwater pumping during construction of the City's Wet Weather Equalization Basin.

The southern wetland boundary was established between the one sample point where all three wetland criteria were met (SP-3) and two sample points where the criteria were not met (SP-1 and SP-2). Sample point SP-1 is located at the proposed emergency riser within the City's existing drainage easement, adjacent to the wooden backyard fence and close to an existing underground storm drain that carries stormwater and urban nuisance drainage from residential neighborhoods west toward the Anza Pump Station on Pacifica State Beach. Sample point SP-1 is in a small depression that facilitates drainage when water accumulates in the southern portion of the project site. Sample point SP-3 is located in the interior of the arroyo willow thicket and in the topographic depression where soils are inundated or saturated for a significant part of the growing season.

On-Site Special-Status Species

Special-status species are species that have been listed as "threatened" or "endangered" under the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered special-status due to declining populations, vulnerability to habitat change, or restricted distributions. A description of the criteria and laws pertaining to special-status classifications is described below.

Figure 4.1-2
Wetland Map

Special-status plant and wildlife species may meet one or more of the following criteria:

1. Listed as threatened or endangered, or proposed or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS);
2. Listed as threatened or endangered and candidates for listing by the CDFW;
3. Identified as Fully Protected species or Species of Special Concern by CDFW;
4. Identified as Medium or High priority species by the Western Bat Working Group (WBWG); and
5. Plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS) and CDFW (California Rare Plant Rank [CRPR] 1, 2, and 3):
    a. CRPR 1A: Plants presumed extinct.
    b. CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
    c. CRPR 2A: Plants extirpated in California, but common elsewhere.
    d. CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
    e. CRPR 3: Plants about which the CNPS needs more information – a review list.

Listed and Special-Status Plants

Based on a review of the resources and databases discussed above, 29 special-status plant species were documented as part of WBC's analysis within five miles of the study area (see Figure 4.1-3).

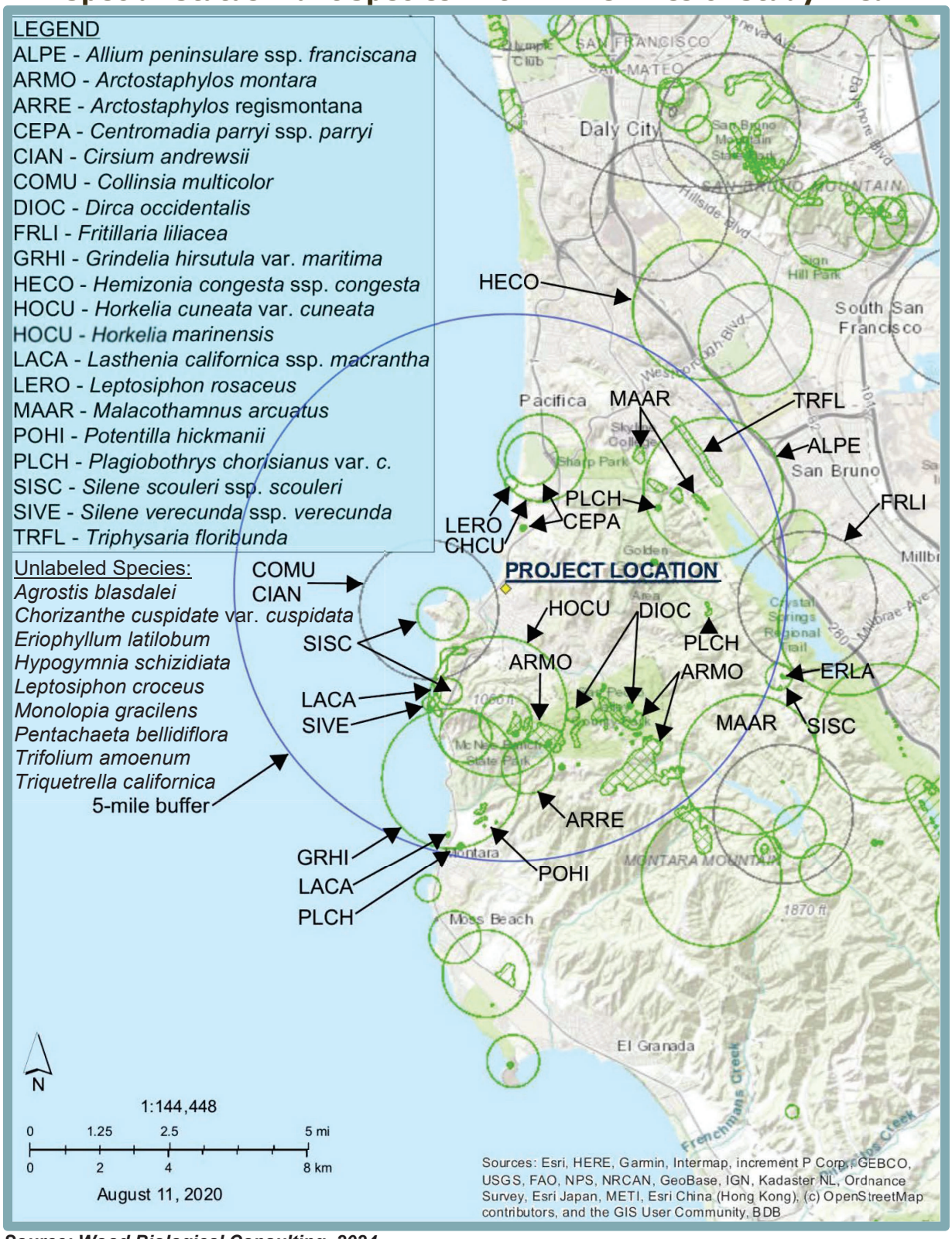
As shown in Table 1 of the Biological Constraints Analysis (see Appendix C of this EIR), suitable habitat is not present within the study area for 28 of the 29 identified special-status species due to the absence of chaparral, coastal bluffs, woodland, etc. In addition, none of the species were identified during the reconnaissance-level field survey of the study area. While sandy soils are present, which would provide potential habitat for San Francisco Bay spineflower (*Chorizanthe cuspidata* var. *cuspidate*), the species was not present during the field survey, which occurred during the species' blooming period. Therefore, low potential exists for special-status plants to occur within the study area.

Listed and Special-Status Wildlife

Based on a review of the resources and databases discussed above, 16 special-status wildlife species were documented within five miles of the study area as part of WBC's analysis (see Figure 4.1-4). As discussed in Table 2 of the Biological Constraints Analysis (see Appendix C of this EIR), of the 16 special-status wildlife species that were documented, 15 are considered unlikely, or have no potential, to occur in the study area based on habitat features, such as the location of the site outside of the species' historical range, the lack of suitable aquatic habitat, lack of suitable foraging or nesting habitat, and lack of a den or cave development area.

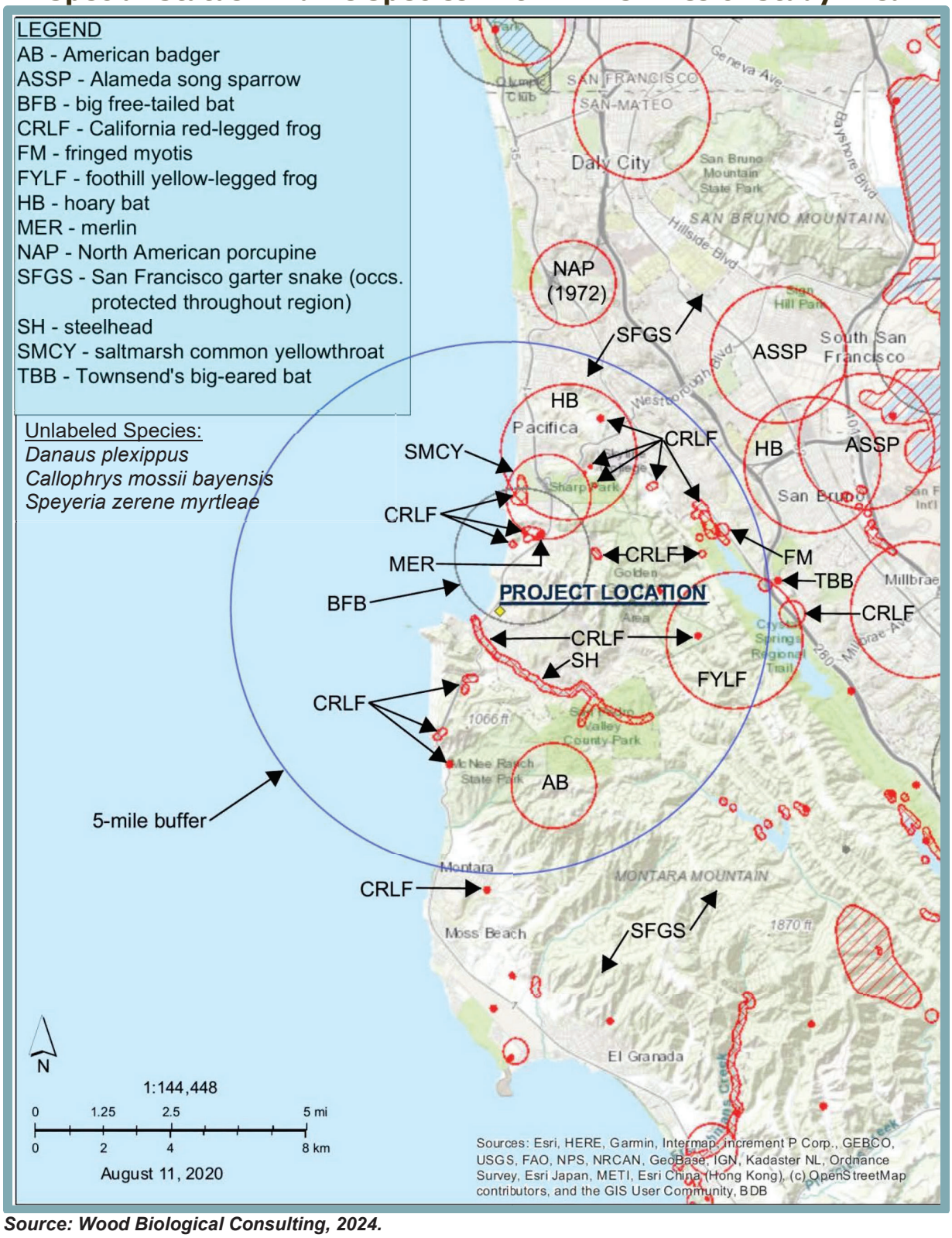
The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) was identified as having the potential to occur within the study area. Other nesting birds protected by the California Fish and Game Code (CFGC) and the federal Migratory Bird Treaty Act of 1918 (MBTA) may also occur on-site. In addition, while the Biological Constraints Analysis determined that limited breeding habitat for California red-legged frog (*Rana aurora draytonii*) exists in the study area on a regular basis, the potential for the species to occur in the study area is evaluated herein. Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), birds protected by the MBTA, and California red-legged frog are discussed in detail, below.

Figure 4.1-3
Special-Status Plant Species Within Five Miles of Study Area



Source: Wood Biological Consulting, 2024.

Figure 4.1-4
Special-Status Wildlife Species Within Five Miles of Study Area



Source: Wood Biological Consulting, 2024.

Saltmarsh Common Yellowthroat

The saltmarsh common yellowthroat is a CDFW Species of Special Concern. The species is a small bird with an olive-brown back and rich yellow throat. The migratory bird ranges from Canada to southern Mexico and winters from the southern U.S. to the West Indies and Panama. A year-round resident of the San Francisco Bay Area, the species inhabits dense vegetation in wetlands, marshes, estuaries, prairies and riparian areas of San Francisco and San Pablo bays, and along the coastal areas of Marin, San Francisco, and San Mateo counties. Saltmarsh common yellowthroat requires thick, continuous cover down to the water surface for foraging and tall grasses, tule patches or willows for nesting, and forage on insects and spiders on the ground or within dense vegetation. Nests are built near the base of dense vegetation, sometimes over water. Breeding occurs from mid-March to late July, and pairs typically double brood.

The nearest known record (California Natural Diversity Database [CNNDB] Occurrence #5) is located approximately 1.8 miles north of the study area. The potential exists for on-site willows to provide migratory habitat. However, the study area does not provide potential nesting habitat due to its small area and urban setting, and the absence of proximity to water that is usually associated with saltmarsh common yellowthroat nests. The species was observed in the study area during monitoring of the City's Wet Weather Equalization Basin in 2017-2018, although the nesting status was not determined.

Birds Protected by the MBTA

Nesting birds, including raptors, are protected by CFGC Section 3503. Raptors, passerines, non-passerine land birds, and waterfowl are further protected under the Federal MBTA of 1918. The MBTA prohibits the take, possession, purchase, sale, or bartering of any migratory bird, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. All migratory bird species are protected by the MBTA.

Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

In addition to the special-status birds identified within five miles of the study area by the CNDDB, the USFWS Information for Planning and Consulting (IPaC) database also identified 19 species of birds protected under the MBTA and Bald Eagle Protection Act, and are considered Bird Species of Conservation Concern. Six of the identified species (Allen's hummingbird [*Selasphorus sasin*], rufous hummingbird [*Selasphorus rufus*], song sparrow [*Melospiza melodia*], spotted towhee [*Pipilo maculatus*], wrentit [*Chamaea fasciata*], and saltmarsh common yellowthroat) have low probability of nesting in the project site, but cannot be entirely ruled out.

California Red-Legged Frog

The California red-legged frog (*Rana draytonii*) is covered under FESA. On March 16, 2010, the USFWS issued the final designation for California red-legged frog Critical Habitat. The 2010 Critical Habitat maps (Federal Register dated March 17, 2010 [Volume 75, Number 51:12815-12864] shows that the project site is not located within mapped Critical Habitat for the species. The California red- legged frog is also a CDFW Species of Special Concern.

The California red-legged frog is typically found in ponds and slow-flowing portions of perennial and intermittent streams that maintain water in the summer months. The frog is also found in hillside seeps that maintain pool environments or saturated soils throughout the summer months.

Populations are not likely to be maintained if all surface water disappears (i.e., surface water for egg laying and larval development habitat is unavailable). Larval California red-legged frogs require 11 to 20 weeks of permanent water to reach metamorphosis (i.e., to change from a tadpole into a frog), in water depths of 10 to 20 inches. Riparian vegetation such as willows and emergent vegetation such as cattails are preferred California red-legged frog habitats, though not necessary for the species to be present. Populations of California red-legged frog will be reduced in size or eliminated from ponds supporting non-native species such as bullfrog, Centrarchid fish species (such as sunfish, bluegill, or largemouth bass), and signal and red swamp crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*, respectively), all of which are known California red-legged frog predators. However, the presence of such non-native species does not preclude the presence of the California red-legged frog.

California red-legged frogs also use upland habitats for migration and dispersal. The USFWS Recovery Plan for the California Red-Legged Frog states that frog overland excursions by way of uplands can vary between 0.25-mile up to three miles during the course of a wet season, and that frogs have been observed to make long-distance movements that are straight-line, point to point migrations rather than using corridors for moving in between habitats. Such overland straight-line migrations are primarily limited to periods of heavy rainfall or during periods when ambient conditions exhibit high moisture levels such as in fog belts along the coast.

According to the USFWS Recovery Plan for the California Red-Legged Frog, populations are most likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal. The primary constituent elements for California red-legged frogs are aquatic and upland areas where suitable breeding and non-breeding habitat is interspersed throughout the landscape and is interconnected by unfragmented dispersal habitat.

Based on observations of the emergent wetlands in the study area in July 2020, and conversations with the biologist that monitored the construction of the City's Wet Weather Equalization Basin, which is located adjacent to the western boundary of the project site and was constructed to eliminate capacity-related sanitary sewer overflows during the rainy season,[9] the study area provides suitable breeding or dispersal habitat for the species under rare conditions. The only potentially aquatic feature in the study area is a small area within the emergent marsh vegetation that, in the past, ponded seasonally, but not consistently between and within years. In particular, permanent water for the minimum duration of 11 to 20 weeks required for larval development does not occur. The groundwater level on and around the study area appears to have been drawn down since construction of the Equalization Basin.

The nearest population of California red-legged frog is located 0.3-mile south of the study area, in San Pedro Creek, but is separated from the study area by dense residential and commercial development, heavily traveled roads (including SR 1), and the frequently-visited Pacifica State Beach. Opportunities for the species to successfully disperse to the study area from San Pedro Creek do not occur. Similarly, populations of the species at Calera Creek (one mile north of the study area; CNDDB Occurrence #504), Laguna Salada (1.9 miles north; CNDDB Occurrence #455), and in Vallemar (1.6 mile northeast; CNDDB Occurrence #918) are separated from the study area by high ridges and other topographic barriers precluding line-of-sight migration, such as residential development and major roads, including SR 1. Therefore, the primary constituent

[9] City of Pacifica. *Wet Weather Equalization Basin (EQ Basin)*. Available at: https://www.cityofpacifica.org/departments/public-works/wastewater-treatment/wet-weather-equalization-basin-eq-basin. Accessed December 2024.

elements in the Recovery Plan and cited above that would indicate potential for California red legged frog to occur are not present within the study area.

Trees

Several trees and shrubs are located on-site, with several Monterey cypress trees located in the northern portion of the project site and arroyo willows located in the southern portion of the study area and along the western and eastern parcel boundaries. Three of the on-site trees were evaluated as part of the Arborist Report prepared for the proposed project.[10] Tree #1 is a large Monterey cypress. The tree has not been maintained and is in fair health and condition. The tree has multiple trunks from grade, with each trunk's diameter at breast height (DBH) measured as 35.1, 30.3, 36.7, and 34.3 inches. The canopy is thick and healthy but has collapsed on the south side of the tree. The tree is located in the middle of the lot at the front of the property. Tree #2 is a Monterey pine (*Pinus radiata*) with a DBH of 33.8 inches, but is in poor health and condition. Tree #3 is a Monterey cypress located along the frontage of the project site with a DBH of 39 inches. The tree is in fair health and condition; however, the tree has many broken branches, and the canopy has been heavily pruned on one side.

According to Pacifica Municipal Code Section 4-12.08, heritage trees include any trees that are of the species coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California buckeye (*Aesculus californica*), Monterey pine, or coast redwood (*Sequoia sempervirens*), which have a trunk diameter of 12 inches or more; or any trees that are of the species toyon (*Heteromeles arbutifolia*) which have a trunk diameter of four inches or more at breast height. The Director of the Department of Public Works may also designate heritage trees that meet any of the following criteria: tree(s) of historic value; specimen tree(s) of any species; any tree of substantial size of its species; age; or significant habitat value. In addition, according to Section 4-12.02, protected trees include all trees, with the exception of eucalyptus or invasive species, which have a trunk with a DBH of 12 inches or greater, any heritage trees, and any grove of trees. Therefore, Tree #2 is considered a heritage tree pursuant to Pacifica Municipal Code Section 4-12.08, and Tree #1 and Tree #3 are considered protected trees pursuant to Section 4-12.02 of the Pacific Municipal Code.

4.1.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources:

Federal Endangered Species Act

Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 U.S. Code [USC] Section 1533[c]). Two federal agencies oversee the FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, while the NMFS has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that federal agencies consult with the USFWS and NMFS to ensure that

[10] Wood Biological Consulting. *Response Letter: File No. 2016-004, 570 Crespi Drive, Pacifica CA (APN 022-162-310) – 570 Crespi – IS/MND Information Needed*. September 22, 2021.

federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan (HCP) that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of the FESA, a federal agency reviewing a project within the jurisdiction of the agency must determine whether any federally listed threatened or endangered species may be present on-site and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]).

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the CFGC states, "It is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the code or any regulation adopted pursuant thereto."

Waters of the U.S. and the Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 Code of Federal Regulations [CFR] Section 328.2[f]). In addition, Section 401 of the CWA (Title 33 of USC, Section 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3[b]).

Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

In May 2023, the U.S. Supreme Court interpreted the term “waters of the United States” as understood in wetland permitting in its decision in *Sackett v. Environmental Protection Agency*, 598 U.S. 651, 143 S.Ct. 1322 (2023). The Court’s decision has been generally understood to contract the legal jurisdiction previously asserted by the USACE. In its opinion, the Court held that the “waters” protected under the CWA are limited to “geographic[al] features that are described in ordinary parlance as ‘streams, oceans, rivers, and lakes’” and to adjacent wetlands that are “indistinguishable” from those bodies of water due to a continuous surface connection, though “temporary interruptions in surface connection may sometimes occur because of phenomena like low tides or dry spells.”

On August 29, 2023, in response to the *Sackett* decision, USACE and the U.S. Environmental Protection Agency (USEPA) issued a final rulemaking that revises the definition of "Waters of the United States" (WOTUS) within USACE and USEPA regulations. The adopted document is known as the WOTUS Rule. The WOTUS Rule defines "waters of the United States" to include the following:

- Traditional navigable waters, the territorial seas, and interstate waters (Jurisdictional Waters);
- Impoundments of Jurisdictional Waters (Jurisdictional Impoundments);
- Relatively permanent, standing or continuously flowing tributaries to either Jurisdictional Waters or Jurisdictional Impoundments (Jurisdictional Tributaries);
- Wetlands having a continuous surface connection to either Jurisdictional Waters, Jurisdictional Impoundments, or Jurisdictional Tributaries (Jurisdictional Wetlands); and
- Relatively permanent, standing or continuously flowing intrastate lakes and ponds with a continuous surface connection to (but are not themselves) a Jurisdictional Water, Jurisdictional Impoundment, Jurisdictional Tributary, or Jurisdictional Wetland.

State Regulations

The following are the State environmental laws and policies relevant to biological resources:

California Department of Fish and Wildlife

CDFW administers a number of laws and programs designed to protect fish and wildlife resources under the CFGC, such as CESA (CFGC Section 2050, et seq.), Fully Protected Species (CFGC Section 3511) and the Lake or Streambed Alteration Agreement Program (CFGC Sections 1600 to 1616). Such regulations are summarized in the following sections.

California Endangered Species Act

The State of California enacted CESA in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that “overriding considerations” exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

CESA prohibits the taking of State-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving State-listed species, including those

resulting from CEQA mitigation requirements. CDFW may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFW requires preparation of mitigation plans in accordance with published guidelines.

Fish and Game Code Section 3505

Birds of prey are protected in California under provisions of the CFGC, Section 3503.5, (1992), which states, "it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by CDFW.

Lake or Streambed Alteration Program

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the CDFG, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams, and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, the CDFW will require that the parties enter into a Lake or Streambed Alteration Agreement.

CDFW Species of Special Concern

In addition to formal listings under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of Species of Special Concern developed by CDFW. Species whose numbers, reproductive success, or habitat may be threatened are tracked by CDFW in California.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently 64 species, subspecies, and varieties of plants are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Regional Water Quality Control Board

Pursuant to Section 401 of the CWA and USEPA Section 404(b)(1) guidelines, in order for a USACE federal permit applicant to conduct any activity which may result in discharge into

navigable waters, they must provide a certification from the Regional Water Quality Control Board (RWQCB) that such discharge will comply with the State water quality standards. The RWQCB has a policy of no-net-loss of wetlands in effect and typically requires mitigation for all impacts to wetlands before the RWQCB will issue water quality certification.

Under the Porter-Cologne Water Quality Control Act (California Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit [NWP] from the USACE), the project may still require review and approval by the RWQCB, in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of the Solid Waste Agency of Northern Cook County (SWANCC) vs. USACE. The RWQCB in response to the above case, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:

> Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the USACE and are also subject to streambed alteration agreements issued by the CDFW; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of CDFW jurisdiction. Absent of RWQCB attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the RWQCB to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally-protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all of the resources, services and qualities of aquatic ecosystems and underground aquifers that benefit the State. In most cases, the RWQCB seeks to protect the beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, RWQCB requires the use of construction and post-construction Best Management Practices (BMPs). In many cases, proper use of BMPs, including bioengineering detention ponds, grassy swales, sand filters, modified roof techniques, drains, and other features, will speed project approval from RWQCB. Development setbacks from creeks are also requested by RWQCB as they often lead to less creek-related impacts in the future.

Local Regulations

The following are the local environmental laws and policies relevant to biological resources:

City of Pacifica General Plan 2040

The following policies from the City of Pacifica General Plan 2040 related to biological resources are applicable to the proposed project:

Conservation Element

Guiding Policies

Policy CO-G-7 **Wildlife and Critical Habitat.** Conserve and protect indigenous threatened, endangered, and other special status species by preserving critical habitat.

Policy CO-G-8 **Coastal Environment and Special Status Communities.** Conserve and

protect beaches, sand dunes, coastal bluffs, and special status communities, particularly the Coastal bluff scrub on the northern bluffs.

Policy CO-G-10 **Trees.** Conserve trees and encourage native forestation and planting of appropriate trees and vegetation.

Policy CO-G-11 **Other Environmentally Sensitive Areas.** Protect other potential ESHAs, high habitat value areas, and wildlife movement corridors from development that would significantly disrupt habitat values.

Implementing Policies

Policy CO-I-26 **Protection of Biological Resources with New Development.** Protect sensitive habitat areas and special-status species through implementation of the following measures:

1) Discourage development and/or buildout in critical habitat of special status species during the development review process.
2) Pre-construction plant and wildlife surveys: Project applicants shall engage a qualified biologist to conduct presence/absence biological surveys for sensitive plant and wildlife species prior to construction adjacent to or within identified special status communities and other sensitive areas identified in Figure 7-3 of the proposed General Plan. If special status species are identified, the qualified biologist shall consult with the California Department of Fish and Wildlife (CDFW) and establish no-disturbance buffers around avian nests, bat roosts, and sensitive plants to avoid disturbance and direct impacts to these resources during construction. If no special status species are detected during surveys, then construction-related activities may proceed. Nesting birds, in particular, are protected by two means; they receive protection under the Migratory Bird Treaty Act, and nesting raptors (in the order Falconiformes or Strigiformes) are protected under the State Fish and Game Code, §3503.5.
3) Require biological resource assessments be conducted prior to approval for any development within 300 feet of creeks, wetlands, or other sensitive habitat areas shown on Figure 7-3 of the proposed General Plan.
4) Require on-site monitoring of biological resources by a qualified biologist throughout the duration of construction activity.
5 Require compensatory mitigation by means of habitat preservation, restoration, and enhancement; for the loss of any critical habitat and/or special status communities.

Policy CO-I-30 **Fuel Modification.** Ensure that new development is sited and designed to minimize the need for fuel modification and vegetation clearance in order to avoid or minimize the disturbance or destruction of habitat and existing hydrology while still providing for fire safety as necessitated by the North County Fire Authority's Vegetation Management Program. Prohibit new development that would require fuel modification within ESHAs.

Policy CO-I-33 **Construction during Nesting Season.** If site work or construction occurs during the nesting season (February 1 through August 31), then preconstruction breeding bird surveys shall be performed by a qualified wildlife biologist prior to any site disturbance to ensure that no nests will be disturbed or destroyed during Project implementation. If an active nest is found sufficiently close to work areas to be disturbed by construction activities, then the biologist shall create a no-disturbance buffer of 250 feet around passerine nests and a 500 foot buffer around raptor nests. Workfree buffer zones shall be maintained until after the breeding season or until after the qualified biologist determines the young have fledged (usually late June through mid-July).

Policy CO-I-35 **Protection of the Californian Red-Legged Frog and San Francisco Garter Snake during Construction.** To minimize disturbance, require all grading activity within 100 feet of identified aquatic habitat shall be conducted during the dry season (May 1 and October 15) to protect California red-legged frog and San Francisco garter snake. A qualified biologist shall conduct presence/absence surveys for California red-legged frog and San Francisco garter snake prior to construction in or adjacent to riparian areas, grasslands near ponds/wetlands, or other sensitive habitat. Any individuals identified shall be treated in consultation with USFWS. Construction shall follow accepted procedures for exclusion and avoidance of California red-legged frog and San Francisco garter snake and their habitat. Additionally, the biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, shall conduct environmental awareness training for construction workers, and shall be present during initial vegetation clearing and ground-disturbing activities.

Policy CO-I-36 **Invasive Plant Species.** Prohibit the use of invasive plant species (i.e., any California Invasive Plant Council (CalIPC)-listed species with a status of high or moderate, or identified such as locally threatened under the limited, alert, or watch status).

Policy CO-I-38 **Biological Productivity.** Maintain—and where feasible, restore—the biological productivity and the quality of coastal waters, streams, wetlands, and lakes in order to maintain optimum populations of marine organisms and to protect human health.

Policy CO-I-39 **Heritage Trees.** Update the Heritage Tree ordinance to improve ease of City administration and clarity for applicants and surrounding residents. Consider a canopy goal for heritage and non-heritage trees as part of the Heritage Tree ordinance update or other updates to the City's tree regulations.

City of Pacifica Heritage Tree Preservation Ordinance

Title 4, Chapter 12 of the City's Municipal Code (Tree Preservation) stipulates regulations designed to preserve and protect heritage trees on private or city-owned property. In general, heritage trees are defined as any trees that are of the species coast live oak, valley oak, California buckeye, Monterey pine, or coast redwood, which have a trunk diameter of 12 inches or more; or any trees that are of the species toyon which have a trunk diameter of four inches or more at breast height. The Director of the Department of Public Works may also designate heritage trees

that meet any of the following criteria: tree(s) of historic value; specimen tree(s) of any species; any tree of substantial size of its species; age; or significant habitat value. In addition, according to Section 4-12.02 of the Pacifica Municipal Code, protected trees include all trees, with the exception of eucalyptus or invasive species, which have a trunk with a DBH of 12 inches or greater, all heritage trees, and any grove of trees. The City requires a Tree Removal Permit to remove a protected tree, including all heritage trees, or City tree.

4.3.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to biological resources. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the City of Pacifica General Plan 2040, and professional judgment, a significant impact related to biological resources would occur if the proposed project would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan.

Issues Not Discussed Further

The Initial Study prepared for the proposed project (see Appendix A) determined that development of the proposed project would result in no impact related to the following:

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.

For the reasons cited in the Initial Study (Section IV, Biological Resources), the potential impacts associated with the above are not analyzed further in this EIR.

Method of Analysis

The information contained in the analysis presented herein is primarily based on the Biological Constraints Analysis (Appendix C) and Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis (Appendix D) prepared by WBC.

Biological Constraints Analysis

A Biological Constraints Analysis report was first prepared by Monk & Associates, Inc. in 2014 for the single parcel located at 570 Crespi Drive.[11] However, the proposed project now also includes the adjacent parcel at 540 Crespi Drive (identified by Assessor's Parcel Numbers [APNs] 022-162-420 and 022-162-310), which is currently owned by the City of Pacifica.

A peer review of the 2014 Biological Constraints Analysis conducted by Madrone Ecological Consulting recommended several information items to enable the City to make planning decisions with regard to biological resources.[12] The updated Biological Constraints Analysis prepared by WBC in August 2020 referenced herein revises the original report based on peer review recommendations from Madrone Ecological Consulting and the additional parcel.[13] Although the foregoing reports were prepared in advance of the EIR, the report was the beginning of an ongoing analysis of the project site over time, including peer review processes and recent supplemental reports. WBC also provided supplemental responses to public comments from the CDFW and peer review comments from the City of Pacifica.

As part of the updated Biological Constraints Analysis, prior to conducting field data collection, potential occurrence of special-status species within the project site was evaluated by first determining which special-status species occur in the project site's vicinity through a literature and database search. Database searches for known occurrences of special-status species focused on the five-mile radius surrounding the project site. The following sources were reviewed by WBC to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the project site:

- CNDDB records of special-status plant, animal species and natural communities documented as occurring within five miles of the study area;
- USFWS IPaC database for federally listed species and migratory birds;
- CNPS Inventory of Rare and Endangered Plants;
- A sequence of aerial photo imagery on Google Earth;
- Montara Mountain U.S. Geological Survey 7.5-minute topographic quadrangle map;
- Topographic survey map of the study area; and
- CEQA documentation of the City's recently completed Wet Weather Equalization Basin, which is adjacent to the study area.

In addition, WBC conferred with Mr. Patrick Kobernus of Coast Ridge Ecology, who acted as the City's biological compliance monitor during construction of the City's Wet Weather Equalization Basin in 2017-2018, during which Mr. Kobernus made direct observations of biological resources in the study area.

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[11] Monk & Associates, Inc. *Biological Constraints Analysis 570 Crespi Drive, City of Pacifica San Mateo County, California (APNS: 022-162-310) (~1.7 Acres)*. October 8, 2014.

[12] Madrone Ecological Consulting. *Peer review for the proposed 570 Crespi Drive, City of Pacifica, San Mateo County, California*. April 20, 2020.

[13] Wood Biological Consulting. *Biological Constraints Analysis – Updated*. August 17, 2020.

A reconnaissance-level survey for biological resources of the study area was conducted by WBC on July 19, 2020. The survey consisted of walking as much of the study area as was physically accessible (dense and impenetrable willow scrub is limiting over a large portion of the study area), and making observations of habitats and plant and wildlife species on and adjacent to the study area.

Delineation of Potentially Jurisdictional Aquatic Resources

Aquatic resources within the study area were assessed by WBC on July 19, 2020. As part of the Delineation of Potentially Jurisdictional Aquatic Resources conducted for the proposed project, WBC reviewed relevant background information, including the 2014 Biological Constraints Analysis, the 2020 peer review, a sequence of aerial photo imagery on Google Earth, the National Wetlands Inventory, California Aquatic Resource Inventory, Soil Conservation Service, Montara Mountain U.S. Geological Survey 7.5-minute topographic quadrangle map, a topographic survey map of the parcels, and environmental review documents related to the City's recently completed Wet Weather Equalization Basin.

WBC conducted an additional assessment on March 31 and April 4, 2022, which focused on reevaluating the wetland boundary in the southern portion of the study area in support of a design modification regarding an emergency drain riser. The entire site was assessed on April 5, 2023, to determine whether the wetland boundary had changed in the intervening period, which included the exceptionally wet winter of 2022-2023. The field data collection consisted of observations of wetland and upland vegetation, soil characteristics, and evidence of hydrology in relation to topography. The delineation used the Routine Determination Method as described in the 1987 USACE Wetland Delineation Manual, in conjunction with the Regional Supplement to the USACE Wetland Delineation Manual: Western Mountains, Valleys and Coasts Region (Version 2.0). Aquatic resources were classified using commonly accepted habitat types.

In the northern portion of the project site, vegetation, soil and hydrology were documented at nine locations on three transects across the wetland-upland boundary. Sample points were mapped in the field using a Trimble Geo XT 6000, with differential correction. A wetland boundary (subject to verification by the USACE) was mapped on an aerial photograph. Three positive wetland parameters must normally be present for an area to be considered a wetland: dominance of wetland vegetation, presence of hydric soils, and presence of wetland hydrology.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to biological resources is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.1-1 Have a substantial adverse effect, either directly (e.g., threaten to eliminate a plant community) or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, suitable habitat is not present on-site for 28 of the 29 special-status plant species identified in the five-mile radius of the study area due to the

absence of chaparral, coastal bluffs, woodland, etc. In addition, none of the species were identified during the reconnaissance-level field survey of the study area. Therefore, low potential exists for the majority of special-status plants to occur on-site.

While sandy soils are present, which would provide potential habitat for San Francisco Bay spineflower, the species was not present during the 2020 field survey. However, given enough time, plants may become established in areas where suitable habitat exists. Therefore, San Francisco Bay spineflower could become established on-site in the interim between surveys/analysis and construction, which could result in potential impacts during construction of the proposed project.

Based on the above and given the substantial time between the 2020 field survey and the commencement of construction activities, without additional field surveys, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on a plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

4.1-1(a) *Prior to the commencement of construction associated with the proposed project, focused plant preconstruction surveys shall be conducted by a qualified biologist during the documented bloom periods of San Francisco Bay spineflower. Two site visits, including one early-season (April) and one late-season (July) shall be sufficient to cover the blooming periods. If San Francisco Bay spineflower are not observed during the focused plant surveys, impact to special-status plant species would not occur, and mitigation would not be required. The results of the surveys shall be submitted to the City's Planning Department.*

4.1-1(b) *If San Francisco Bay spineflower are identified on-site during the focused plant surveys, the project applicant shall be responsible for ensuring construction activities avoid special-status plants through preparation and submittal to the City's Planning Department of an Avoidance Plan Report detailing protection and avoidance criteria, measures, and the extent to which special-status plants were successfully avoided. The Avoidance Plan Report shall be subject to approval by the City's Planning Department and CDFW.*

If avoidance is infeasible, the qualified biologist shall ensure seed collection for affected special-status plants is completed and plants are re-established at a minimum of a one-to-one ratio (number of newly established plants relative to the number of plants impacted) in a preserved, suitable habitat approved by the City and CDFW. The project applicant shall document and submit proof of compliance to the City's Planning Department and CDFW.

Re-established special-status plant populations shall be monitored annually by the project applicant in accordance with an approved Habitat Mitigation and Monitoring Plan prepared in consultation with the City's Planning Department, with annual monitoring taking place for a minimum of five years. The Habitat Mitigation and Monitoring Plan shall include criteria, subject to approval by all applicable agencies, including the City's Planning Department, USFWS, and CDFW, detailing the survival ratio required of re-established populations and performance standards for further replanting for any re-established special-status plant species that do not survive. Reports describing performance results shall be prepared by a qualified biologist and shall be submitted to the City's Planning Department for years one, three, and five of the monitoring period.

4.1-2 Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through habitat modifications, on migratory birds and raptors protected under the MBTA. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The Biological Constraints Analysis determined the proposed project to have the potential to impact special-status and non-special-status native nesting birds protected under the CFGC and MBTA, including Allen's hummingbird, rufous hummingbird, song sparrow, spotted towhee, wrentit, and saltmarsh common yellowthroat.

As previously discussed, native nesting birds, including raptors, are protected by CFGC Section 3503. Raptors, passerines, non-passerine land birds, and waterfowl are further protected under the MBTA. The MBTA prohibits the take, possession, purchase, sale, or bartering of any migratory bird, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

The trees within the northern portion of the project site and proposed off-site areas provide suitable nesting habitat to accommodate nesting songbirds and other raptors protected under the MBTA and CGFC. Several trees are located within the study area and nests could potentially be established prior to project construction. Should construction activities occur during the nesting season, the potential exists that such activities could result in impacts to protected nesting songbirds and raptors if construction activities were to cause nest abandonment and/or loss of reproductive efforts, or direct mortality if active nests occur within the trees in the study area proposed for removal. Furthermore, construction activities adjacent to birds nesting in avoided areas could result in nest abandonment.

With respect to saltmarsh common yellowthroat, which is protected under the MBTA and considered a CDFW Species of Special Concern, the Biological Constraints Analysis determined that the study area does not support potential nesting habitat for the species. Willow scrub within the study area could provide migration habitat, and the species was observed foraging on-site during 2017 through 2018. Therefore, construction of the proposed project could have a substantial adverse effect on saltmarsh common yellowthroat individuals.

Based on the above, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on nesting songbirds and raptor species protected under the MBTA and CFGC. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.1-2 *To ensure compliance with protections for migratory birds under the MBTA and the CFGC, the measures outlined below shall be implemented prior to the commencement of construction activities. Evidence of compliance shall be submitted to the City's Planning Department for review and approval prior to the commencement of construction activities.*

1. *If construction activities are scheduled to occur outside of the breeding season (i.e., September 1 through January 31), pre-construction surveys or other mitigation measures are not necessary.*

2. *If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey shall be conducted on the identified work area and a buffer zone (see #3, below). The survey shall be performed by a qualified biologist no more than two weeks prior to the initiation of work. If nesting or breeding activity is not observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 250 feet of construction activities, including equipment staging, for raptors and 100 feet for other protected bird species shall be mapped.*

3. *For any active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for other protected bird species), the project biologist shall make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If construction is determined unlikely to disrupt breeding behavior, construction may proceed. If construction is determined to potentially disrupt breeding, the construction-free buffer zone shall be expanded; avoidance is*

the only mitigation available. The ultimate size of the construction-free buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of site between the work area and the nest, physical barriers, and the ambient level of human activity. For raptors, the project biologist shall contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments.

If construction activities are determined likely to disrupt raptor breeding, construction activities within the construction-free buffer zone may not proceed until the project biologist determines that the nest is unoccupied.

4. *If the project biologist, in consultation with the City, determines that maintenance of a construction-free buffer zone is not practicable, active nests shall be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If construction activities are determined to potentially cause nest abandonment, work shall cease until the project biologist determines that the nest is unoccupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management shall be contacted for guidance.*

4.1-3 Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through habitat modifications, on any wildlife species identified as a candidate, sensitive, or special-status species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, the majority of special-status species identified with the potential to occur within the vicinity of the study areas are considered unlikely, or have no potential, to occur based on habitat features, such as the location of the site outside of the species' historical range, the lack of suitable aquatic habitat, lack of suitable foraging or nesting habitat, and lack of a den or cave development area. The only potentially aquatic feature in the study area is a small area within the emergent marsh vegetation that, in the past, ponded seasonally, but not consistently between and within years. In particular, permanent water for the minimum duration of 11 to 20 weeks required for larval development does not occur. Groundwater level on and around the study area appear to have been drawn down since construction of the City's Wet Weather Equalization Basin. However, while suitable breeding habitat for California red-legged frog does not occur within the study area on a regular basis, the potential for California red-legged frog to occur in the study area exists under rare conditions. As such, potential impacts to California red-legged frog are addressed herein.

The nearest population of California red-legged frog is located 0.3-mile south of the study area, in San Pedro Creek. However, the study area is surrounded by high ridges and other topographic barriers precluding line-of-sight migration, including residential development and major roads, such as SR 1. Therefore, the primary constituent elements in the Recovery Plan are not present, and California red-legged frog would not be anticipated to occur on-site.

Nonetheless, because California red-legged frog is known to occur in the vicinity of the project site and potentially suitable habitat is present, the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (California red-legged frog) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.1-3 Implement Mitigation Measures 4.1-4(b) and 4.1-4(c).

4.1-4 Have a substantial adverse effect on any riparian habitat or other sensitive natural community, or State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. The habitats are protected under federal regulations, such as the CWA, and State regulations, such as the Porter-Cologne Act and the CDFW Streambed Alteration Act. Wetlands are considered sensitive environmental resources protected at federal, State, and local levels. Wetlands provide unique habitat functions and values for wildlife, and provide habitat for plant species adapted to wetland hydrology. Throughout the State, the quality and quantity of wetlands has dramatically declined owing to the construction of dams, dikes, and levees, as well as because of water diversions, the filling of wetlands for development, and the overall degradation of water quality by inputs of runoff from agricultural, urban, and infrastructure development and other sources.

As part of the Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis, the project site was surveyed to determine the presence of any wetlands, non-wetland waters, or riparian vegetation potentially subject to jurisdiction under the CDFW or the USACE. Wetlands or other surface waters are not identified in the National Wetlands Inventory as occurring on the project site. In addition, the project site is not located on a stream or near other surface waters. As detailed in Table 4.1-1, a total of approximately 0.550-acre of arroyo willow scrub exists within the study area. Although the area of arroyo willow scrub that would be removed as part of the

proposed project is not associated with a stream or lakebed setting, the CDFW may determine that the arroyo willow scrub area meets its interpretation of riparian vegetation, which would require notification, review, and authorization under the CDFW Streambed Alteration Act. If such is the case, the project applicant would enter into a Lake or Streambed Alteration Agreement.

The Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis determined that approximately 0.240-acre of emergent marsh and approximately 0.060-acre of seasonal wetlands are present within the study area. Recent changes to the definition of WOTUS have resulted in changes in the interpretation of the federal jurisdictional status of the on-site wetland. In 2020, at the time of the first wetland delineation update, the USEPA and the USACE Navigable Waters Protection Rule (NWPR) was in effect. The NWPR included adjacent wetlands, which could be separated from waters of the U.S. by an artificial structure so long as the structure allows for a direct hydrologic connection between the adjacent wetlands and waters of the U.S. The 2020 wetland delineation acknowledged that the wetland on the project parcels could be considered jurisdictional by virtue of its potential connection to the ocean by way of the drainage easement, stormwater sewer, and the Anza Pump Station.

In January 2023, the NWPR was repealed and replaced with a new revised rule. Discussed above in the Regulatory Context section, in response to the *Sackett* decision, USACE and the USEPA issued a final rule that revises the definition of WOTUS within USACE and USEPA regulations. According to the updated rule, adjacent wetlands must be contiguous with navigable waters with a surface water connection. The on-site wetland does not exhibit a continuous surface water connection to navigable waters (the Pacific Ocean), because the wetland is interrupted by a drainage swale that did not exhibit flow during the wet winter of 2022-2023; a subsurface storm drain system that would capture any flow that occurs; and a system of flood control pumps that would be required to discharge flows to the ocean.

In the southwestern corner of the study area, surface water (i.e., in excess of what percolates on-site or is pumped from neighboring properties) could enter the shallow drainage swale that flows west-northwest toward SR 1, parallel with the backyard fences of existing residences on Anza Drive. The swale follows the route of a buried 24-inch storm drain culvert. At least two drain inlets to the culvert are located at ground surface level within the undeveloped parcel between the Pacifica Skatepark and SR 1. The culvert crosses SR 1 under the north entrance to the parking lot for Pacifica State Beach, and connects to the Anza Pump Station, which discharges directly to the Pacific Ocean. However, following the exceptionally wet winter of 2022-2023, evidence of surface water flow exiting the project site parcels by way of the drainage easement except by way of the underground storm sewer does not exist. Although higher water levels did occur following the large rain events, necessitating pumping from neighboring properties, the water level did not appear to overtop the low berm in the southwest corner of the project site.

The on-site wetland is never inundated by water from the Pacific Ocean by way of the culvert and swale, any tributaries do not enter the project site. Therefore, while the wetlands within the study area exhibit field indicators consistent with jurisdictional wetlands, the wetlands do not meet the current regulatory definition of federal

jurisdictional waters of the U.S. under Section 404 of the CWA. Because the proposed project does not propose any actions resulting in a discharge of fill into the wetlands, development of the proposed project does not require a Section 404 permit under the USACE regulatory program.

Waters of the State include WOTUS, but may also include areas that do not meet the criteria for federal jurisdictional status. The State wetland definition is:

> "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

The State wetland definition relies on the federal delineation method to identify State wetlands. As shown above in Figure 4.1-2, the areas mapped as non-jurisdictional arroyo willow scrub do not satisfy criteria (1) or (2). The proposed project would remove or prune an estimated 784 square feet (sf) of arroyo willow scrub to meet parking and walkway requirements at the southern edge of the proposed Building B. The portion of arroyo willow scrub does not meet all three wetland criteria (i.e., soil and hydrology indicators are lacking), and, therefore, is not included in the wetland total. The proposed project also would result in planting of 1,170 sf of willow scrub, which would avoid fill discharge into waters of the State. In addition, the 18-inch emergency overflow riser that would be installed in the western corner of the project site and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary is located outside of the delineated wetland area.

However, the on-site central area of arroyo willow scrub, freshwater emergent marsh and transitional seasonal wetland have been shown to meet the definition of waters of the State. Therefore, the proposed project could potentially disturb and, possibly, fill, up to 0.87-acre of jurisdictional wetlands and/or remove potential riparian vegetation. As such, the proposed project could have a substantial adverse effect on riparian habitat or State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.1-4(a) *Prior to the commencement of ground-disturbing activities, the project applicant shall notify CDFW, pursuant to CFGC Section 1600. The notification shall include a description of all of the activities associated with the proposed project, not just those associated with the drainages and/or riparian vegetation. Impacts shall be outlined in the notification and are expected to be in substantial conformance with the impacts to biological resources outlined in the Updated Definition of Potentially Jurisdictional Aquatic Resources and Effects Analysis prepared for the 570 Crespi Drive Project by Wood Biological Consulting. Impacts for*

each activity shall be broken down by temporary and permanent impacts. A description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent impact. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, along with a description of stormwater treatment methods. Minimization and avoidance measures shall be proposed, as appropriate, and may include preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific stormwater BMPs. Mitigation for impacts to 0.550-acre of arroyo willow scrub riparian vegetation may include restoration or enhancement of resources on- or off-site, or any other method acceptable to CDFW. Mitigation shall not result in a net loss of a Sensitive Natural Community.

If CDFW determines through the course of the CFGC Section 1600 notification process that the project does not require a Lake or Streambed Alteration Agreement (LSAA) to address potential impacts to arroyo willow scrub, further mitigation beyond the proposed mitigation included in the notice to CDFW regarding the aforementioned vegetation communities shall not be required. Written verification of the applicant's compliance with the Section 1600 LSAA process shall be submitted to the City of Pacifica Planning Division prior to the start of any construction activities.

4.1-4(b) *Prior to the start of any construction activities, a temporary sediment and debris barrier shall be installed on the southern limit of the construction area that slopes toward the arroyo willow and emergent wetland habitat. The fence will also double as a wildlife exclusion fence during construction. The fence shall consist of standard construction silt fence material with a height of 36 inches. The lower six inches of fence material shall either be folded toward the construction side of the fence and weighted down with soil or sandbags, or backfilled in a trench; with both methods, the purpose is to completely contact the surface so that water and sediment would not flow underneath, and wildlife would not enter the work area from the wetland. The barrier shall be maintained throughout the duration of the construction period. Evidence of compliance with this measure shall be submitted to the City of Pacifica Planning Division prior to the start of any construction activities.*

4.1-4(c) *A qualified biologist, or a designated representative who has been trained by a qualified biologist, shall inspect the area inside of the sediment and debris barrier for special-status species, including California red-legged frog, every day before construction activities commence. If any special-status species are found, the qualified biologist shall be immediately contacted (if the survey was conducted by the designated representative), construction activities shall not be allowed to start, and the USFWS and CDFW shall be consulted on an*

appropriate course of action. Such action could include leaving the animal alone to move away on its own or the relocation of the animal to an area outside of the construction area. The qualified biologist, in consultation with the CDFW and USFWS, shall make the ultimate determination of the action to be taken. Evidence of compliance with this measure shall be submitted to the City's Planning Department prior to commencement of construction activities.

4.1-4(d) *If required and prior to initiation of grading, excavation, or other construction activities, the project applicant shall submit to the San Francisco Bay RWQCB an application for CWA Section 401 Water Quality Certification and/or Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the State and obtain a permit or waiver. The project applicant shall be responsible for conducting all project activities in accordance with the permit provisions outlined in any applicable permit. A copy of the Water Quality Certification or waiver issued for the project shall be submitted to the City's Planning Department prior to commencement of grading, excavation, or other construction activities.*

4.1-5 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Based on the analysis below, the impact is *less than significant*.

Environmental corridors are segments of land that provide a link between different habitats while also providing cover. Habitat loss, fragmentation, and degradation have the potential to alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise distinct larger habitats or habitat fragments). The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

With implementation of Mitigation Measure 4.1-4(b), a temporary sediment and debris barrier would be installed on the southern limit of the construction area that slopes toward the arroyo willow and emergent wetland habitat. The fence would act as a wildlife exclusion fence during construction. Therefore, water and sediment would not flow under the fence, and wildlife, including California red-legged frogs, would not enter the construction area from the wetland.

Furthermore, as the project site is bounded by the Pacifica Community Center and Pacifica Skatepark to the west, Ocean View Senior Apartments and commercial businesses to the north, across Crespi Drive, commercial businesses to the east, and single-family residences to the south, the potential for use of the site as a wildlife corridor or native wildlife nursery site is limited. Additionally, sufficient land in the greater vicinity, specifically in the eastern portions of the City limits and areas to the south of the City, offer land much more conducive to wildlife movement and native

wildlife nursery sites, as such areas are devoid of development. Given the amount of suitable land in the greater vicinity of the project site that could accommodate wildlife movement, the proposed project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.

In addition, with respect to California red-legged frog, as discussed above, existing populations are separated from the project site by high ridges and other topographic barriers precluding line-of-sight migration, residential development and major roads, including SR 1. The on-site wetland does not exhibit a continuous surface water connection to navigable waters, because the wetland is interrupted by a drainage swale that did not exhibit flow during the wet winter of 2022-2023. Therefore, because a hydraulic connection to the project site does not exist, the species would not be anticipated to migrate to the project site. Nonetheless, as discussed above, Mitigation Measure 4.1-4(b) would require a temporary sediment and debris barrier on the southern limit of the construction area that slopes toward the arroyo willow and emergent wetland habitat, which would serve as a wildlife exclusion fence during construction.

Based on the above information, the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, the proposed project would have a ***less-than-significant*** impact.

Mitigation Measure(s)

None required.

4.1-6 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Several trees and shrubs are located on-site. Although the proposed project would include the removal of several on-site trees, the project would preserve trees along the project site frontage and within the off-site improvement area. As discussed above, one on-site Monterey pine is considered a heritage tree, and two on-site Monterey cypress trees are considered protected trees pursuant to Pacifica Municipal Code Section 4-12.02.

Any removal of a protected tree requires a Tree Removal Permit, and any relocation or transportation of a protected tree, application of fertilizers or chemicals, grading, clearing, excavating, adding fill soil, trenching, boring, compacting, or paving within 50 feet of a protected tree or City tree requires a Tree Encroachment Permit pursuant to Pacifica Municipal Code Sections 4-12.04 and 4-12.06, respectively. A Tree Protection and Preservation Plan must be submitted in conjunction with any development proposal which requires a discretionary permit or other land use approval, or a proposal to engage in regulated work within 50 feet of a protected tree. The plan must

be prepared by a qualified arborist, horticulturist, landscape architect or other qualified person.

Based on the above, without preparation of a Tree Protection and Preservation Plan or obtainment of a Tree Removal Permit or Tree Encroachment Permit, the removal of or encroachment upon on-site heritage and protected trees could conflict with a local policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance. Thus, a ***significant*** impact would occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

4.1-6 *Prior to issuance of any grading permit, the project applicant shall obtain a Tree Removal Permit for any protected trees to be removed and a Tree Encroachment Permit for any construction activities within 50 feet of a protected tree from the City of Pacifica Director of Public Works.*

Prior to issuance of a certificate of occupancy, the project applicant shall complete planting of any replacement trees required as part of the Director of Public Works heritage tree removal authorization or other authorizations. In addition, the project applicant shall prepare and submit a Tree Protection and Preservation Plan prior to the protected tree removal or encroachment authorizations or other authorizations in accordance with the City Municipal Code, Sections 4-12.02 through 4-12.11, and shall implement any tree protection measures identified to protect trees which will not be removed during construction prior to commencement of any construction activity.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The geographic scope for the cumulative biological resources analysis generally includes buildout of the proposed project in conjunction with the development of the City of Pacifica General Plan 2040 planning area. For more details regarding the cumulative setting, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.1-7 Cumulative impact on biological resources. Based on the analysis below, the cumulative impact is *less than significant*.

The General Plan Update EIR concluded that, with implementation of the City of Pacifica General Plan 2040 policies, impacts to biological resources would be less than significant. While the proposed project would require a General Plan Amendment,

disturbance of the project site and associated impacts to biological resources were anticipated in the General Plan Update EIR.

As discussed above, the study area contains a variety of vegetation communities, including arroyo willow scrub, emergent marsh, seasonal wetland, non-native annual grassland, and disturbed and ornamental. In addition, the study area includes a total of 0.87-acre of jurisdictional wetlands. As discussed throughout this chapter, the project site provides limited habitat for special-status species, including San Francisco Bay spineflower and saltmarsh common yellowthroat. Mitigation measures have been set forth in this chapter to ensure that the proposed project complies with all applicable standards and regulations and minimizes potential adverse effects to special-status species.

It should be noted that while the proposed project would result in the loss of a portion of the existing on-site habitat, the southern portion of the project site would remain undeveloped in order to avoid environmentally sensitive wetland areas. Overall, with incorporation of the mitigation measures set forth herein, potential impacts to biological resources would be reduced to less-than-significant levels. As such, the proposed project would not result in substantial adverse effects to biological resources protected by CEQA.

As further discussed in Chapter 5 of this EIR, CEQA Guidelines Section 15064(h)(5), states, "[…] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are identified as significant, any level of incremental contribution is not necessarily deemed cumulatively considerable. In addition, the courts have explicitly rejected the notion that a finding of significance is required simply because a proposed project would result in a net loss of habitat. "[M]itigation need not account for every square foot of impacted habitat to be adequate. What matters is that the unmitigated impact is no longer significant," (*Save Panoche Valley v. San Benito County* [2013] 217 Cal.App.4th 503, 528, quoting *Banning Ranch Conservancy v. City of Newport Beach* [2012] 211 Cal.App.4th 1209, 1233).

The above discussion provides substantial evidence that, while the combined effects on biological resources resulting from approved/planned development throughout the area could be considered significant, the proposed project's incremental contribution to the significant cumulative effect would be reduced with implementation of the mitigation measures required in this EIR.

Based on the above, the proposed project's cumulative impact would be ***less than significant***.

Mitigation Measure(s)

None required.

4.2 Greenhouse Gas Emissions

4.2 GREENHOUSE GAS EMISSIONS

4.2.1 INTRODUCTION

The Greenhouse Gas Emissions chapter of the EIR describes the potential impacts of the proposed project related to greenhouse gas (GHG) emissions and climate change. The chapter includes a discussion of the existing GHG setting, construction-related GHG impacts resulting from grading and equipment emissions, direct and indirect emissions associated with operations of the project, the impacts of these emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts. The chapter is primarily based on information and guidance within the Bay Area Air Quality Management District's (BAAQMD's) CEQA Air Quality Guidelines (Air Quality Guidelines),[1] as well as the City of Pacifica General Plan 2040[2] and City of Pacifica General Plan Update EIR.[3] Further information was also sourced from the City of Pacifica's 2014 Climate Action Plan,[4] as applicable. The results of the air quality modeling prepared for the project and presented in this chapter are included as Appendix E to this EIR.

4.2.2 EXISTING ENVIRONMENTAL SETTING

The following information provides an overview of the existing environmental setting in relation to GHG emissions within the proposed project area.

Background on GHG Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.[5]

The primary GHG emitted by human activities is CO_2, with the next largest components being CH_4 and N_2O. A wide variety of human activities result in the emission of CO_2. Some of the largest sources of CO_2 include the burning of fossil fuels for transportation and electricity, industrial processes including fertilizer production, agricultural processing, and cement production. The primary sources of CH_4 emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management.

1 Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines.* April 2022.
2 City of Pacifica. *City of Pacifica General Plan 2040*. Adopted July 11, 2022.
3 City of Pacifica. *City of Pacifica General Plan Update and Sharp Park Specific Plan Final Environmental Impact Report.* Adopted May 25, 2022.
4 City of Pacifica. *City of Pacifica Climate Action Plan*. Adopted July 14, 2014.
5 U.S. Environmental Protection Agency. *Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases*. Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases. Accessed November 2024.

The main human activities producing N_2O are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that energy-related activities account for the majority of U.S. emissions. Transportation is the largest single-source of GHG emissions, and energy generation is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[6]

Emissions of GHG are partially offset by uptake of carbon and sequestration in trees, agricultural soils, landfilled yard trimmings and food scraps, and absorption of CO_2 by the Earth's oceans. Additional emission reduction measures for GHG could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation, and project design features. Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global warming potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the United States Environmental Protection Agency (USEPA), the GWP of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is CO_2. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of CO_2, as well as the decay rate of each gas relative to that of CO_2. The GWP of each gas is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of CO_2, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative GWP 25 times greater than that of CO_2, as shown in Table 4.2-1.

Table 4.2-1
GWPs and Atmospheric Lifetimes of Select GHGs

Gas	Atmospheric Lifetime (years)	GWP (100 year time horizon)
Carbon Dioxide (CO_2)	50-200[1]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
Hydrofluorocarbon (HFC)-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

1. For a given amount of CO_2 emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

Source: USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 [Table 1-2]. April 14, 2021.

6 U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions.* Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed November 2024.

As shown in the table, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of CO_2. The atmospheric lifetimes of such GHGs are estimated by the USEPA to vary from 50 to 200 years for CO_2, to 50,000 years for CF_4. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the GWP of a gas. The common indicator for GHG is expressed in terms of metric tons of CO_2 equivalents ($MTCO_2e$), which is calculated based on the GWP for each pollutant.

Effects of Global Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The Intergovernmental Panel on Climate Change's (IPCC) Climate Change 2021: The Physical Science Basis report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.[7] Signs that global climate change has occurred include:

- Warming of the atmosphere and ocean;
- Diminished amounts of snow and ice;
- Rising sea levels; and
- Ocean acidification.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment (OEHHA) identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring in California and is having significant, measurable impacts in the State. Changes in the State's climate have been observed, including:

- An increase in annual average air temperature with record warmth occurring in recent years;
- More frequent extreme heat events;
- More extreme drought;
- A decline in winter chill; and
- An increase in variability of statewide precipitation.

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the State depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the State's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters. Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems.

[7] Intergovernmental Panel on Climate Change. *Climate Change 2021: The Physical Science Basis Summary for Policymakers*. Available at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf. Accessed October 2024.

According to the City's Climate Action Plan (CAP), the City of Pacifica, specifically, is susceptible to coastal degradation and sea level rise as climate change increases the rate of erosion and storm surges, which could lead to adverse impacts on infrastructure and both public and private properties within the City. Additionally, the number of extreme heat days (i.e., a location specific threshold defined as the 98th percentile value of the historical daily maximum and minimum temperatures, which for the City of Pacifica, are days that exceed 84.2 F) could reach an average of 16 days per year, as compared to the three days per year that occur now. While California could not see the average annual precipitation changing significantly in the next 50 to 75 years, precipitation could likely be delivered in more intense storms and within a shorter wet season. For example, the 30-year average length of dry spell in the City is 97 days. By the end of the century, the average dry spell could be up to 105 days.[8]

Existing Project-Area GHGs

The project site is located in the western portion of the nine-county San Francisco Bay Area Air Basin (SFBAAB), and is within the jurisdictional boundaries of the BAAQMD. The SFBAAB consists of coastal mountain ranges, inland valleys, and bays.

As of 2024 the City of Pacifica is in the process of updating their CAP which includes their GHG Emissions Inventory. According to the City of Pacifica most recent 2005 GHG Emissions Inventory used within the 2014 CAP, the primary source of GHG emissions in the City is from transportation, which makes up approximately 50 percent of all GHG emissions in the City, followed by residential energy at 29 percent, solid waste at 7.8 percent, commercial energy at 4.8 percent, and City government operations at 3.6 percent. Off road equipment, direct access energy, and County/district operations, combined, make up the remaining 4.6 percent of the City of Pacifica's GHG emissions. Overall, the City of Pacifica emits approximately 183,090 $MTCO_2e$ annually.[9]

The project site is currently undeveloped, and, therefore, does not contribute to the City's annual GHG emissions.

4.2.3 REGULATORY CONTEXT

GHG emissions are monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to reduce GHG emissions through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for monitoring or reducing GHG emissions are discussed below.

Federal Regulations

The following are the federal regulations relevant to GHG emissions.

Federal Vehicle Standards

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, USEPA, and National Highway Traffic Safety Administration (NHTSA) to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through

[8] Cal-Adapt. *Local Climate Change Snapshot for Pacifica, California*. Available at: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed November 2024.
[9] City of Pacifica. *City of Pacifica Climate Action Plan.* Adopted July 14, 2014.

2025 light-duty vehicles. The proposed standards were projected to achieve emission rates as low as 163 grams of CO_2 per mile by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if the foregoing emissions level was achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200), and NHTSA intended to set standards for model years 2022 through 2025 in future rulemaking.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program would have applied to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards were expected to lower CO_2 emissions by approximately 1.1 billion MT, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In August 2018, the USEPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new, less-stringent standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards that were previously in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day, and would impact the global climate by 3/1000th of one degree Celsius by 2100. California and other states stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the USEPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51,310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission-vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued the Part Two Rule, which sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, an Executive Order (EO) was issued on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to the Part One Rule, in December 2021, the U.S. Department of Transportation withdrew its portions of the "SAFE I" rule. As a result, states are now allowed to issue their own GHG emissions standards and zero-emissions vehicle mandates.[10] In addition, the Part Two Rule was adopted to revise the existing national GHG emission standards for passenger cars and light trucks through model year 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and will result in avoiding more than three billion tons of GHG emissions through 2050.[11]

[10] National Highway Traffic Safety Administration. *In Removing Major Roadblock to State Action on Emissions Standards, U.S. Department of Transportation Advances Biden-Harris Administration's Climate and Jobs Goals.* Available at: https://www.nhtsa.gov/press-releases/cafe-preemption-final-rule. Accessed October 2024.

[11] U.S. Environmental Protection Agency. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed October 2024.

State Regulations

The statewide GHG emissions regulatory framework is summarized below. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues. The following discussion does not include an exhaustive list of applicable regulations; rather, only the most prominent and applicable California legislation related to GHG emissions and climate change is included below.

California Green Building Standards Code

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and State-owned buildings and schools and hospitals. The original CALGreen standards have been updated several times. The CALGreen 2022 standards, which are the current standards, improved upon the 2019 CALGreen standards, and went into effect on January 1, 2023. The 2022 CALGreen Code focuses on four key areas in newly constructed homes and businesses:[12]

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

California Building Standards Code

Title 24 of the California Code of Regulations (CCR), which is known as the California Building Standards Code (CBSC), was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6

[12] California Energy Commission. *Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions From Homes and Businesses.* Available at: https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0. Accessed December 2024.

of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed periodically, and revised if necessary, by the Building Standards Commission and CEC (PRC Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). The regulations are scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, the standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2022 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2023. Compliance with the 2022 Title 24 Building Energy Efficiency Standards will reduce energy use and associated GHG emissions compared to structures built in compliance with the previous 2019 Title 24 standards.

State Climate Change Targets

California has taken a number of actions to address climate change, including EOs, legislation, and California Air Resources Board (CARB) plans and requirements, which are summarized below.

Executive Order S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the State agencies for implementing the EO and for reporting on progress toward the targets. The EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also directed the California Environmental Protection Agency (CalEPA) to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issues yearly GHG reduction report cards to track the progress of emission reduction strategies. Each report card documents the effectiveness of measures to reduce GHG in California, presents GHG emissions from State agencies' operations, and shows reductions that have occurred in the two years prior to publication.

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multi-year program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the State's long-range climate objectives. AB 32 also required that the CARB prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020. The CARB's Scoping Plan is described in further detail below.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for an update to the CARB's Scoping Plan to express the 2030 target in terms of million metric tons (MMT) CO_2e. The CARB's Scoping Plan is discussed in further detail below. The EO also called for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill 32 and AB 197

Senate Bill (SB) 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the State's climate policies. AB 197 also added two members of the Legislature to the Board as non-voting members; requires CARB to make available and update (at least annually via the CARB's website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants (TACs) from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every five years. In 2008, CARB approved the first Scoping Plan. The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The key elements of the Scoping Plan include the following:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33 percent;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.); and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from 2008 levels by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the State's GHG emission reduction priorities for the next five years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuation of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the State's 1990 emissions level using more recent GWPs identified by the IPCC, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on a trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, the Scoping Plan was once again updated. The 2017 Scoping Plan built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that would serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the State's climate change priorities to 2030 and beyond. For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15 percent reduction goal with a recommendation to aim for a communitywide goal of no more than six $MTCO_2e$ per capita by 2030, and no more than two $MTCO_2e$ per capita by 2050, which are consistent with the State's long-term goals. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through CAPs) and provided more information regarding tools to support those efforts. The 2017 Scoping Plan also recognized the CEQA streamlining provisions for project-level review where a legally adequate CAP exists.

When discussing project-level GHG emissions reduction actions and thresholds in the context of CEQA, the 2017 Scoping Plan stated that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognized that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provided that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

The most recent update to the Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) was adopted by the CARB in December 2022.[13] The 2022 Scoping Plan Update builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. The 2022 Scoping Plan Update, the most comprehensive and far-reaching Scoping Plan developed to date, identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan. The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the Scoping Plan also includes discussion for the first time of the Natural and Working Lands (NWL) sectors as both sources of emissions and carbon sinks.

The 2022 Scoping Plan Update lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels by 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants (SLCP), support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

CARB's Regulations for the Mandatory Reporting of GHG Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (Title 17 California Code of Regulations [CCR] 95100–95157) incorporated by reference certain requirements that the USEPA promulgated in its Final Rule on Mandatory Reporting of GHGs (40 Code of Federal Regulations [CFR] Part 98). In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 $MTCO_2e$ per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 $MTCO_2e$ per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

Senate Bill 1383

SB 1383 establishes specific targets for the reduction of short-lived climate pollutants (SLCPs) (40 percent below 2013 levels by 2030 for CH_4 and hydrofluorocarbons (HFCs), and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

Executive Order B-55-18/Assembly Bill 1279

EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. CARB intends to work with relevant State agencies to ensure that future scoping plan updates identify and recommend measures to achieve the carbon neutrality goal.

[13] California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. November 16, 2022.

On September 16, 2022, AB 1279, also known as the California Climate Crisis Act, codified the carbon neutrality goal established by EO B-55-18.

Mobile Sources

The following regulations relate to the control of GHG emissions from mobile sources. Mobile sources include both on-road vehicles and off-road equipment.

Assembly Bill 1493

AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles that are primarily used for non-commercial personal transportation in the State. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009-2012) standards would result in a reduction of approximately 22 percent of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013-2016) standards would result in a reduction of approximately 30 percent.

Senate Bill 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every eight years. SB 375 requires the State's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their Regional Transportation Plans that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land, (2) supersede the land use authority of cities and counties, or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with the sustainable community strategy. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the State-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. By 2025, implementation of the rule is anticipated to reduce emissions of smog-forming pollution from cars by 75 percent compared to the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, adopted GHG standards for model year 2017 to 2025

vehicles; the standards were estimated to reduce GHG emissions by 34 percent by 2025. The zero-emissions vehicle program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid EVs in the 2018 to 2025 model years.

Executive Order B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Assembly Bill 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and a feasible method to satisfactorily mitigate or avoid the specific, adverse impact does not exist. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 required electric-vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric-vehicle charging stations. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt the ordinance by September 30, 2017.

Executive Order N-79-20

EO N-79-20 (September 2020) establishes a Statewide goal that 100 percent of in-state vehicle sales of new passenger cars and trucks shall be zero-emission by the year 2035. The order directed the CARB to develop and propose passenger vehicle and truck regulations requiring increasing volumes of new zero-emission vehicles sold in the State in order to achieve the goal by 2035. In addition, the order required that a Zero-Emissions Vehicle Market Development Strategy be created and updated every three years to ensure coordinated and expeditious implementation of the EO.

Water

The following regulation relates to the conservation of water, which reduces GHG emissions related to electricity demands from the treatment and transportation of water.

Executive Order B-29-15

In response to a drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives subsequently became permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the State. In response to EO B-29-15, the

California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance (MWELO) that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens the applicability of the ordinance to include new development projects with smaller landscape areas.

Solid Waste

The following regulations relate to the generation of solid waste and means to reduce GHG emissions from solid waste produced within the State.

Assembly Bill 939 and Assembly Bill 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code [PRC] Sections 40000 et seq.), was passed because of the observed increase in waste stream and the decrease in landfill capacity.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that the policy goal of the State is that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the State's policy goal.

Other State Actions

The following State regulations are broadly related to GHG emissions.

Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research, which has since been renamed to the Governor's Office of Land Use and Climate Innovation (LCI), to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities. The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resource Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, and the amended CEQA Guidelines became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply the lead agency's own thresholds of significance or those developed by other agencies or experts. CNRA acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs State agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the State's vulnerability, the report summarizes key climate change impacts to the State for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that the State government should take to build climate change resiliency.

Local Regulations

The following are the regulatory agencies and regulations pertinent to the proposed project on a local level.

Plan Bay Area 2050

Plan Bay Area 2050 (PBA 50) is a long-range transportation and land use/housing strategy through 2050 for the San Francisco Bay Area, designed to reduce GHG emissions from the mobile sector.[14] PBA 50 was approved by the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) on October 21, 2021. PBA 50 also meets all State and federal requirements for a Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

PBA 50 provides an outline for growth in four focus areas: Priority Development Areas (PDA); Transit-Rich Areas; Priority Production Areas; and High-Resource Areas. The project site is not located within a PDA. According to the PBA 50 Forecasting and Modeling Appendix, by 2050, housing in San Mateo County is projected to increase by 129,000 households, or 48 percent, and jobs are projected to increase by 114,000, or 29 percent.[15]

[14] Association of Bay Area Governments and Metropolitan Transportation Commission. *Plan Bay Area 2050: Final.* October 2021.

[15] Association of Bay Area Governments and Metropolitan Transportation Commission. *Forecasting and Modeling Report, Appendix 1: Growth Pattern*. October 2021.

Local jurisdictions seeking to implement development projects consistent with PBA 50 are eligible for funding for PDA planning and transportation projects. In addition, jurisdictions have the option to streamline the development process for projects consistent with PBA 50 and meet the other criteria included in SB 375.

Bay Area Air Quality Management District

The BAAQMD is the public agency entrusted with regulating air pollution in the nine counties that surround San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties.

The BAAQMD has prepared Air Quality Guidelines, which are intended to be used for assistance with CEQA review. The BAAQMD Air Quality Guidelines include thresholds of significance and project screening levels for GHGs, as well as methods to assess and mitigate project-level and plan-level impacts. The most recent BAAQMD Air Quality Guidelines were released in April 2023.

City of Pacifica General Plan 2040

The following policies from the City of Pacifica General Plan 2040 related to GHG emissions are applicable to the proposed project:

Greenhouse Gas Emissions

Guiding Policies

Policy CO-G-15 **Energy Conservation.** Support efforts to reduce energy use by increasing energy efficiency in buildings and promoting awareness of energy use.

Policy CO-G-16 **Waste Reduction.** Seek to reduce over-all solid waste by limiting packaging, controlling construction and demolition waste, and promoting composting and recycling.

Implementing Policies

Policy CO-I-54 **Climate Action Plan for Greenhouse Gas Reductions.** Maintain and update the Climate Action Plan that focuses on feasible actions the City can take to reduce greenhouse gas emissions from government, businesses, and residents in Pacifica.

Policy CO-I-55 **Green Building**. Monitor the effectiveness of the California Green Building Code in bringing about energy efficiency in architectural design and building construction.

Policy CO-I-56 **Solar Orientation**. When possible, require buildings to be oriented such that the use of passive and active solar strategies is maximized, in order to promote energy efficiency.

Policy CO-I-57 **Encourage Solar Power Generation.** Promote use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems in buildings and parking areas by incentive programs and streamlining review.

Policy CO-I-64 **Outdoor Lighting.** Establish outdoor lighting performance standards to minimize energy use while ensuring appropriate light levels.

Policy CI-I-49 **Promotion of Transit Use.** Promote transit use and reduce reliance on the private automobile in order to reduce congestion, reduce greenhouse gas emissions, and improve quality of life.

City of Pacifica Climate Action Plan

The City of Pacifica adopted a CAP on July 21, 2014, which includes goals to reduce GHG emissions within the City to below 35 percent of 2005 levels by 2020 and below 80 percent of 1990 levels by 2050. The City of Pacifica CAP includes GHG emission reduction measures and aims to outline the principles and policies for the City's response to climate change. The reduction measures included within the CAP were developed to reduce the City's GHG emissions associated with four emission sources: energy, transportation, solid waste, and water. The City of Pacifica's 2014 CAP is not considered a qualified CAP, as defined by CEQA Guidelines Section 15183.5(b).

4.2.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to GHG emissions. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Based on the recommendations of BAAQMD, City of Pacifica standards, and consistent with Appendix G of the CEQA Guidelines, the proposed project would result in a significant impact related to GHG emissions if the project would result in any of the following:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

Pursuant to CEQA Guidelines Section 15064.4(b)(2), the lead agency is charged with determining a threshold of significance that is applicable to the project. For the analysis within this EIR, the City has elected to use the BAAQMD's thresholds of significance.

The BAAQMD's adopted Air Quality Guidelines include GHG thresholds, which are qualitative and consist of two distinct categories of criteria that must be met: Buildings and Transportation.

The BAAQMD's Buildings criteria require that a project must meet the following minimum project design elements:[16]

a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Sections 21100(b)(3) and 15126.2(b) of the State CEQA Guidelines.

The BAAQMD's Transportation criteria require that a project must meet the following:

[16] Bay Area Air Quality Management District. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans* [pg. 2]. October 2024.

c. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
    i. Residential projects: 15 percent below the existing VMT per capita;
    ii. Office projects: 15 percent below the existing VMT per employee; or
    iii. Retail projects: no net increase in existing VMT.
d. Achieve compliance with off-street EV requirements in the most recently adopted version of CALGreen Tier 2.

Alternatively, a project is not required to implement the foregoing design elements if the project shows consistency with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). Because the City of Pacifica's adopted CAP does not meet the criteria of CEQA Guidelines Section 15183.5(b), the applicable threshold of significance for the proposed project would be compliance with the BAAQMD's Building and Transportation criteria.

Method of Analysis

As discussed throughout this EIR, the proposed project would include the construction of 19 residential condominiums, 16 of which would include two-car garages, and 3,165 sf of retail space, as well as 15 uncovered parking spaces within the project site. In addition, the proposed project would include the construction of a new off-site driveway, and 17 parking spaces associated with the existing Pacifica Community Center located adjacent to the project site. The additional parking spaces for the Pacifica Community Center would accommodate the existing use of the community center and would not expand operations.

A comparison of the proposed project to the BAAQMD's qualitative thresholds discussed above shall determine the significance of the potential impacts related to GHG emissions and climate change resulting from the proposed project. Where potentially significant impacts related to GHG emissions are identified, mitigation measures are described that would reduce or eliminate the impact.

In addition, for informational purposes, the proposed project's short-term construction GHG emissions and long-term operational GHG emissions were estimated using California Emission Estimator Model (CalEEMod) version 2022.1.1.28, which is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data was input into the model. Further information regarding the inherent design features and project-specific information that was applied to the model is included in Section III, Air Quality, of the Initial Study prepared for the proposed project (refer to Appendix A of this EIR). Results of the modeling are expressed in $MTCO_2e$/yr. All CalEEMod modeling results are included in Appendix E to this EIR. The estimated GHG emissions are presented for disclosure purposes only, as BAAQMD's thresholds of significance for GHG emissions are qualitative, not quantitative. It should be noted that the estimated GHG emissions are not used to determine the level of impact significance herein.

Project-Specific and Cumulative Impacts and Mitigation Measures

Global climate change is, by nature, a cumulative impact. As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

Emissions of GHG contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). While GHG emissions from a project in combination with other past, present, and future projects contribute to the world-wide phenomenon of global climate change and the associated environmental impacts, a single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. Due to the existing regulations within the State, for the purposes of this analysis, the geographic context for the analysis of GHG emissions presented in this EIR is the State of California.

Because the effects of GHG emissions are cumulative by nature, separate discussions for project-level and cumulative-level impacts for the proposed project are not necessary for this chapter of the EIR.

4.2-1 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Based on the analysis below and with implementation of mitigation, the project's incremental contribution to the significant cumulative impact is *cumulatively considerable* and *significant and unavoidable*.

An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHGs are inherently considered cumulative impacts.

Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and, to a lesser extent, other GHG pollutants, such as CH_4 and N_2O. Sources of GHG emissions include area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste.

Based on the modeling conducted for the proposed project, construction of the project was estimated to generate annual maximum unmitigated GHG emissions of 255 $MTCO_2e$/yr. The total unmitigated annual operational GHG emissions for the first year

of project operation (assumed to be 2027) were estimated as presented in Table 4.2-2.

As noted previously, the applicable BAAQMD thresholds of significance for GHG emissions are qualitative, and the foregoing information is provided for disclosure purposes only. Potential impacts related to GHG emissions resulting from implementation of the proposed project are considered in comparison with BAAQMD's adopted thresholds of significance below.

Table 4.2-2
Unmitigated Project Operational GHG Emissions

Source	Annual GHG Emissions ($MTCO_2e/yr$)
Mobile	295
Area	0.28
Energy	39.8
Water	2.19
Waste	15.1
Refrigerants	0.06
Total Annual Operational GHG Emissions	**352**

Source: CalEEMod, July 2024 (see Appendix E).

As discussed above, the City's CAP does meet the criteria of CEQA Guidelines Section 15183.5(b). Thus, this discussion evaluates project consistency with the BAAQMD's Buildings and Transportation criteria.

With regard to Buildings criterion a., the proposed project would not include new gas service connections within the proposed buildings, and, as a result, appliances requiring natural gas would not be used. Thus, the proposed project would not conflict with BAAQMD's Buildings criterion a.

Consistency with Buildings criterion b. was evaluated in Section VI, Energy, of the Initial Study prepared for the proposed project (refer to Appendix A of this EIR). As noted therein, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. During project operations, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, including the Building Energy Efficiency Standards and the CALGreen Code, which would ensure that building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. As a result, the proposed project would comply with BAAQMD's Buildings criterion b.

Consistency with Transportation criterion c. is evaluated in Chapter 4.3, Transportation, of this EIR. As presented therein, the proposed project would generate VMT per resident that exceeds 15 percent below the existing citywide average VMT per capita. Therefore, without mitigation, the proposed project could conflict with BAAQMD's Transportation criterion c.

With regard to Transportation criterion d., the 2022 CALGreen Code requires all single-family, townhomes, and duplexes be EV capable (i.e., each dwelling unit must have a listed raceway to accommodate a dedicated 208/40-volt branch circuit), which would be suitable for EV charging. For single-family residences and townhouses, compliance with the 2022 CALGreen Code would satisfy the requirements established by BAAQMD criterion d. With regard to the 15 on-site uncovered spaces, according to the 2022 CALGreen Code Tier 2 standards, a total of four spaces would be required to be EV capable. Similarly, four EV spaces would be required associated with the 17 community center spaces. Based on the CALGreen Code, electric vehicle supply equipment (EVSE) would not be required on-site. However, as noted in Chapter 3, Project Description, of this EIR, a total of three spaces on-site would include EV chargers. Nonetheless, because the number of EV capable spaces on-site is currently unknown, Mitigation Measure 4.2-1(a) would be required to ensure project compliance with the 2022 CALGreen Code Tier 2 standards and BAAQMD Transportation criterion d.

Project Consistency with Applicable GHG Plans

Applicable plans, policies, and/or regulations adopted for the purpose of reducing the emissions of GHGs and relevant to the proposed project were determined to be the PBA 2050, the City's 2014 CAP, and the City of Pacifica General Plan.

With regard to PBA 2050, while the project site is not located within a Priority Development Area, the proposed project would be a mixed use, infill development located within a high-transit area, which would be generally consistent with PBA 2050 policy direction. In addition, as discussed in Chapter 4.3, Transportation, of this EIR, Mitigation Measure 4.3-3 would require each new resident to be provided with two free one-year transit passes upon original purchase of the residence from the developer. By providing residents with transit passes, new residents may be encouraged to use transit rather than driving to work. Several pedestrian and bicycle facilities are also available in the project area, which would further promote the use of alternative transportation. Thus, the proposed project would generally be consistent with the goals PBA 2050.

The 2014 Pacifica CAP is intended to guide the reduction of GHG emissions associated with existing operations and future development in the City. The GHG inventory contained in the City's CAP was derived based on the land use designations and associated densities defined in the City's General Plan. Additionally, the CAP establishes a number of reduction measures, including the use of renewable energy, safe routes to school, and water conservation incentives. As discussed in Section VI, Energy, of the IS/MND prepared for the proposed project (see Appendix A to this EIR), 46 kilowatt-hours (kWh) of energy per day used by the project would be generated by on-site renewable sources, the site is located adjacent to the Crespi Drive & Highway 1 SamTrans bus stop, and indoor water conservation strategies would be applied. Thus, the proposed project would be generally consistent with the CAP reduction measures. Because the proposed project remains consistent with the CAP's reduction measures, such as the Smart growth development, and the proposed project is consistent with the site's existing General Plan land use designation, the project would remain consistent with the GHG inventory within the CAP.

Finally, the proposed project would comply with the CALGreen Code, MWELO, and CBSC, which would ensure compliance with the majority of the applicable General Plan policies related to GHG emissions, such as Policies CO-G-15, CO-G-16, CO-I-55 through CO-I-57, and CO-I-64. In addition, as discussed above, the proposed project would promote the use of transit services through implementation of Mitigation Measure 4.3-3, consistent with the goals of General Plan Policy CI-I-49, and would be generally consistent with the goals of the City's 2014 CAP, as encouraged by General Plan Policy CO-I-54. Thus, the proposed project would generally be consistent with the applicable General Plan policies related to GHG emissions.

Conclusion

Based on the above, the proposed project would be generally consistent with PBA 2050, the City's 2014 CAP, and the City's General Plan policies related to GHG emissions. In addition, the proposed project would comply with Building Criterion a, related to the prohibition of natural gas and Buildings Criterion b., related to the wasteful, inefficient, or unnecessary use of energy. However, the proposed project has the potential to conflict with Transportation Criterion c., related to VMT and Transportation Criterion d, related to the provision of EV charging stations. Because the proposed project could conflict with the BAAQMD's applicable thresholds of significance for GHG emissions, the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Thus, a ***cumulatively considerable*** and ***significant*** impact related to GHG emissions could occur.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.2-1(a) would ensure project consistency with Transportation criterion d. Mitigation Measure 4.2-1(b) would address Transportation criterion c. As discussed further in Chapter 4.3, Transportation, of this EIR, implementation of the measures required by Mitigation Measure 4.2-1(b) would reduce project VMT, but not to a level that would achieve 15 percent less than the regional average VMT. Therefore, even with the implementation of Mitigation Measure 4.2-1(b), the project would not comply with BAAQMD's Transportation criterion c. Consequently, even with implementation of the following mitigation measures, the project's incremental contribution to the cumulatively significant effects of GHG emissions and global climate change would remain *cumulatively considerable* and *significant and unavoidable*.

4.2-1(a) Prior to the issuance of a building permit, the applicant shall implement the following measure:

- *Consistent with BAAQMD's Transportation criterion d., a total of four EV Capable parking spaces shall be installed throughout the 15 on-site uncovered parking spaces, and an additional four EV Capable parking spaces shall be installed throughout the 17 community center spaces, consistent with the current CALGreen Tier 2 standards.*

Project improvement plans shall be prepared by a licensed engineer indicating the required EV Capable parking spaces and shall be submitted for review and approval by the City's Engineer prior to the issuance of a building permit. Compliance with the foregoing measure shall be ensured by the City of Pacifica Planning Division.

4.2-1(b) Implement Mitigation Measure 4.3-3.

4.3 TRANSPORTATION

4.3 TRANSPORTATION

4.3.1 INTRODUCTION

The Transportation chapter of the EIR discusses the existing transportation facilities within the project vicinity, focusing on pedestrian, bicycle, and transit facilities, as well as applicable policies and guidelines used to evaluate operation of such facilities. Where development of the proposed project would conflict with applicable policies or guidelines, mitigation measures are identified. The information contained within this chapter is primarily based on the Vehicle Miles Traveled (VMT) Analysis prepared by Hexagon Transportation Consultants, Inc. (Hexagon) (see Appendix F),[1] as well as the City of Pacifica General Plan 2040[2] and the City of Pacifica General Plan Update and Sharp Park Specific Plan EIR (General Plan Update EIR).[3]

Pursuant to CEQA Guidelines Section 15064.3, environmental documents must use VMT rather than level of service (LOS) as the metric to analyze transportation impacts. Therefore, the analysis included in this chapter focuses on VMT. The State's requirement to transition from LOS to VMT is aimed at promoting infill development, public health through active transportation, and a reduction in greenhouse gas (GHG) emissions.

4.3.2 EXISTING ENVIRONMENTAL SETTING

The section below describes the physical and operational characteristics of the existing transportation system within the project vicinity, including the surrounding roadway network, pedestrian, bicycle, and transit facilities, as well as existing average VMT in the City.

Existing Roadways

The following provides a summary of the existing roadways within the project area.

State Route 1

State Route (SR) 1 is a multi-lane highway, which runs northeast to southwest in the vicinity of the project site. SR 1 becomes a freeway approximately 5.5-mile northeast of the project site, where the freeway connects to Interstate 280 (I-280) north of the City of Pacifica. The segment of SR 1 located west of the project site has two travel lanes in each direction. SR 1 traverses the City of Pacifica from north to south, connecting Pacifica to Daly City and San Francisco to the north, and to Half Moon Bay and the San Mateo County coastline to the south. The posted speed limit along the portion of SR 1 nearest the project site is 45 miles per hour (mph).

Crespi Drive

The City of Pacifica General Plan classifies Crespi Drive as a collector roadway, which have slower permitted speeds than arterial roadways; serve short, local trips; and accommodate travel between residential neighborhoods and arterials. Collector roadways are generally larger streets

[1] Hexagon Transportation Consultants, Inc. *VMT Analysis for Proposed Mixed-Use Development at 570 Crespi Drive in Pacifica, California.* September 10, 2024.
[2] City of Pacifica. *City of Pacifica General Plan 2040.* Adopted July 11, 2022.
[3] City of Pacifica. *City of Pacifica General Plan Update and Sharp Park Specific Plan Final Environmental Impact Report.* Adopted May 25, 2022.

in residential areas, but have smaller widths than arterial roadways. Collector roadways, such as Crespi Drive, have moderate volumes of vehicular traffic, and equally accommodate automobiles, bicycles, and pedestrians within the right-of-way.

Crespi Drive is a four-lane, northwest-southeast roadway that parallels the eastern boundary of the project site. Crespi Drive extends southeast from SR 1 and provides access to the residential neighborhood, school, and commercial uses located near the project site. The intersection of SR 1 and Crespi Drive is located northwest of the project site, across from the Pacifica Community Center. The posted speed limit along Crespi Drive near the project site is 25 mph.

Roberts Road

Roberts Road is a two-lane roadway that winds up a hillside from Crespi Drive to Fassler Avenue. The intersection of Roberts Road and Crespi Drive is located northeast of the project site. The roadway does not have a posted speed limit.

Pedestrian, Bicycle and Transit Facilities

The sections below describe the existing pedestrian, bicycle and transit facilities located within the vicinity of the project site. Figure 4.3-1 presents the existing and planned pedestrian and bicycle facilities within the City of Pacifica.

Sidewalks and Paths

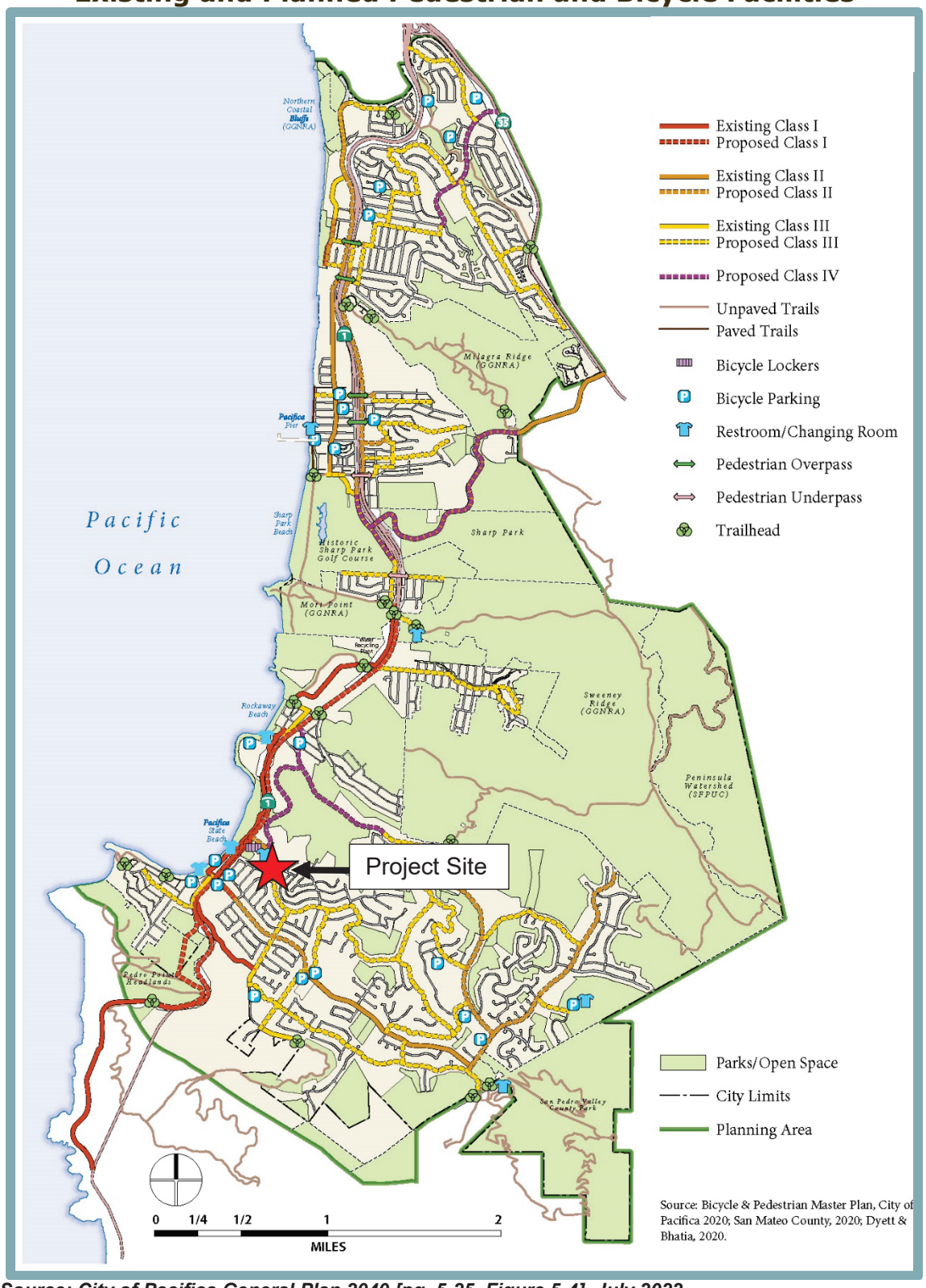
Within the vicinity of the project site, continuous sidewalks are provided on both sides of Crespi Drive and Roberts Road. A pedestrian crosswalk is also provided at the intersection of Crespi Drive and Roberts Road, near the northeast corner of the project site. In addition, the Pacifica Rockaway Trail is located north of and runs parallel to SR 1 and can be accessed by pedestrians and bicyclists. The trail access point nearest to the project site is located at the intersection of Crespi Drive and SR 1.

Bicycle Facilities and Trails

Bicycle paths, lanes, and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following four classes:

- *Bike Paths (Class I)* – Bike paths provide a completely separate right-of-way and are designated for the exclusive use of people riding bicycles and walking with minimal cross-flow traffic. Such paths can be well situated along creeks, canals, and rail lines. Class I bike paths can also offer opportunities not provided by the road system by serving as both recreational areas and/or desirable commuter routes.
- *Bike Lanes (Class II)* – Bike lanes provide designated street space for bicyclists, typically adjacent to the outer vehicle travel lanes. Bike lanes include special lane markings, pavement legends, and signage. Bike lanes may be enhanced with painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (such as driveways or intersections).
- *Bike Routes (Class III)* – Bike routes provide enhanced mixed-traffic conditions for bicyclists through signage, striping, and/or traffic calming treatments, and to provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes, or along low-volume, low-speed streets.

Figure 4.3-1
Existing and Planned Pedestrian and Bicycle Facilities



Source: City of Pacifica General Plan 2040 [pg. 5-25, Figure 5-4]. July 2022.

Bicycle boulevards provide further enhancements to bike routes to encourage slow speeds and discourage non-local vehicle traffic via traffic diverters, chicanes, traffic circles, and/or speed tables. Bicycle boulevards can also feature special wayfinding signage to nearby destinations or other bikeways.

- *Separated Bikeways (Class IV)* – Separated bikeways are for the exclusive use of bicycles and includes a separation required between the bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

As mentioned above, the Pacifica Rockaway Trail runs parallel to SR 1 and can be accessed by pedestrians and bicyclists. The trail access point nearest to the project site is located at the intersection of Crespi Drive and SR 1.

As illustrated on Figure 4.3-1, the City plans to develop a Class I bike path northwest of the project site, parallel to SR 1. In addition, as presented on Figure 4.3-1, the City has proposed to develop a Class II bike lane on a segment of Crespi Drive from SR 1 to Roberts Road and a Class III bike route along the remaining entirety of Crespi Drive. The City has also proposed to develop a Class IV separated bikeway along Roberts Road to the northeast of the project site in the future.

Transit System

The San Mateo County Transit District (SamTrans) provides bus service throughout San Mateo County and into San Francisco and Palo Alto. SamTrans provides local service in Pacifica, as well as regional service to and from the Bay Area Rapid Transit (BART) and Caltrain stations.

Several SamTrans connections are located within the vicinity of the project site. For example, SamTrans runs lines 110, 112, and 118, with a stop on Crespi Drive, west of the project site frontage, a stop further east near the intersection of Crespi Drive and Roberts Road, and another stop near the intersection of SR 1 and Crespi Drive. Routes 110 and 112 provide service between the SR 1 corridor in the City of Pacifica and the Daly City and Colma BART stations, respectively; both lines terminate at Linda Mar Shopping Center. Routes 110 and 112 have half-hour to one-hour headways, and run on both weekdays and weekends. Route 118 provides service to Colma BART station during the AM and PM peak hour periods of weekdays, on 15- to 35-minute headways. All SamTrans buses are accessible to persons with disabilities.

The BART provides heavy rail rapid transit to Alameda, Contra Costa, San Francisco, and San Mateo Counties. The Colma, Daly City, San Bruno, and South San Francisco BART stations are accessible to Pacifica residents via bus connections or by car.

Caltrain is a passenger rail line providing commuter service over a 77-mile route between downtown San Francisco and Gilroy, through San Jose, and along the San Francisco Peninsula. Service is provided with headways between five and 20 minutes during the peak hours on weekdays, 30 minutes during off-peak hours during weekdays, and one hour on weekends. The San Bruno station is approximately eight miles east of Pacifica.

Samtrans also operates dial-a-ride (or paratransit) service for persons who cannot use fixed-route bus service, as required by the Americans with Disabilities Act (ADA). Paratransit service in the City of Pacifica is called RediCoast. Certified RediCoast customers may schedule trips over the phone.

Vehicle Miles Traveled

Pursuant to CEQA Guidelines Section 15064.3, VMT is the primary metric used to identify transportation impacts under CEQA. VMT is a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. VMT does not directly measure traffic operations; instead, VMT is a measure of transportation network use and efficiency, especially when expressed as a function of population (i.e., VMT per capita). VMT tends to increase as land use density decreases and travel becomes more reliant on the use of single-passenger vehicles.

The established baseline (2020) average daily VMT per resident in the City of Pacifica is 15.7.[4] According to the VMT Analysis prepared by Hexagon for the proposed project, the project site is located within Traffic Analysis Zone (TAZ) 1925, for which the daily VMT is estimated to be 17.3 miles per capita in the year 2024. The methodology used to calculate the existing VMT is described in further detail in the Method of Analysis section below.

4.3.3 REGULATORY CONTEXT

Existing transportation policies, laws, and regulations that would apply to the proposed project are summarized below and provide a context for the impact discussion related to the project's consistency with the applicable regulatory conditions. Federal plans, policies, regulations, or laws related to transportation are not directly applicable to the proposed project. Rather, the analysis presented herein focuses on State and local regulations, which govern the regulatory environment related to transportation at the project level.

State Regulations

The following are the regulations pertinent to the proposed project at the State level, organized chronologically. It is noted that Caltrans has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, and any improvements to such roadways require Caltrans approval.

Senate Bill 743

In 2013, Senate Bill (SB) 743 was passed to amend Sections 65088.1 and 65088.4 of the Government Code, amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of the Public Resources Code (PRC), to add Section 21155.4 to the PRC, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of the PRC, to add and repeal Section 21168.6.6 of the PRC, and to repeal and add Section 21185 of the PRC, relating to environmental quality. In response to SB 743, the Governor's Office of Planning and Research (OPR), which has since been renamed to the Governor's Office of Land Use and Climate Innovation (LCI), updated the CEQA Guidelines to include new transportation-related evaluation metrics.

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package along with an updated Technical Advisory related to Evaluating Transportation Impacts in CEQA. Full compliance with the Guidelines became effective July 2020. As a result of SB 743, and Section 15064.3 of the CEQA Guidelines, as discussed above and in further detail below, local jurisdictions may no longer rely on vehicle LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA, and instead a VMT metric should be evaluated.

[4] Hexagon Transportation Consultants, Inc. *VMT Analysis for Proposed Mixed-Use Development at 570 Crespi Drive in Pacifica, California* [pg. 4]. September 10, 2024.

Technical Advisory on Evaluating Transportation Impacts in CEQA

In December of 2018, OPR (now LCI) published the Technical Advisory on Evaluation Transportation Impacts in CEQA (Technical Advisory), which is a guidance document to provide advice and recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory is intended to be a resource for the public to use at their discretion, and LCI does not enforce any part of the recommendations contained therein. The Technical Advisory includes recommendations regarding methodology, screening thresholds, and recommended thresholds per land use type.

Vehicle Miles Traveled-Focused Transportation Impact Study Guide

In May of 2020, Caltrans adopted the VMT-Focused Transportation Impact Study Guide (TISG) to provide direction to lead agencies regarding compliance with SB 743. The TISG replaces the Caltrans' 2002 Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System. The objectives of the TISG are to provide:[5]

a) Guidance in determining when a Lead Agency for a land use project or plan should analyze possible impacts to the State Highway System, including its users.
b) An update to the Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) that is consistent with SB 743 and the CEQA Guidelines adopted on December 28, 2018.
c) Guidance for Caltrans land use review that supports state land use goals, state planning priorities, and GHG emission reduction goals.
d) Statewide consistency in identifying land use projects' possible transportation impacts to the State Highway System and to identify potential non-capacity increasing mitigation measures.
e) Recommendations for early coordination during the planning phase of a land use project to reduce the time, cost, and/or frequency of preparing a Transportation Impact Study or other indicated analysis.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is a non-profit association of the Air Pollution Control Officers from all 35 local air quality agencies throughout California. Given the connection between air pollution emissions and the use of motor vehicles, the CAPCOA has issued recommendations that can be used by development projects to reduce project-wide VMT. One such document, the Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, provides methods to quantify the efficacy of certain methods in their ability to reduce VMT and, in turn, GHG emissions.

Local Regulations

Local rules and regulations applicable to the proposed project are discussed below.

Plan Bay Area 2050

Plan Bay Area 2050 (PBA 50) is a long-range transportation and land use/housing strategy through 2050 for the San Francisco Bay Area, designed to reduce GHG emissions from the mobile sector.[6] PBA 50 was approved by the Metropolitan Transportation Commission (MTC) and

[5] Caltrans. *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*. May 20, 2020.
[6] Association of Bay Area Governments and Metropolitan Transportation Commission. *Plan Bay Area 2050: Final.* October 2021.

Association of Bay Area Governments (ABAG) on October 21, 2021. PBA 50 also meets all State and federal requirements for a Regional Transportation Plan and Sustainable Communities Strategy.

PBA 50 provides an outline for growth in four focus areas: Priority Development Areas (PDA); Transit-Rich Areas; Priority Production Areas; and High-Resource Areas. The project site is not located within a PDA. According to the PBA 50 Forecasting and Modeling Appendix, by 2050, housing in San Mateo County is projected to increase by 129,000 households, or 48 percent, and jobs are projected to increase by 114,000, or 29 percent.[7]

Local jurisdictions seeking to implement development projects consistent with PBA 50 are eligible for funding for PDA planning and transportation projects. In addition, jurisdictions have the option to streamline the development process for projects consistent with PBA 50 and meet the other criteria included in SB 375.

San Mateo City/County Association of Governments

As the designated Congestion Management Agency for San Mateo County, the San Mateo City/County Association of Governments (C/CAG) is primarily responsible for administering the State-mandated Congestion Management Program (CMP). San Mateo C/CAG-designated CMP roadway system components in the City of Pacifica include SR 1 and Skyline Boulevard (SR 35). C/CAG is also responsible for preparing the Countywide Transportation Plan, which establishes a long-range transportation vision for the county and informs the PBA 50 prepared by the MTC and ABAG. San Mateo C/CAG also partners with local jurisdictions and other transportation agencies to develop transportation plans and studies for areas and projects with countywide and regional significance.

City of Pacifica Bicycle and Pedestrian Master Plan

The City of Pacifica Bicycle and Pedestrian Master Plan establishes a long-term vision for improving walking and bicycling in the City of Pacifica through policy, program, and project recommendations. Through the implementation of the Bicycle and Pedestrian Master Plan, the City can become a community where walking and bicycling is encouraged and the health of its residents and environmental sustainability is prioritized. The City's Bicycle and Pedestrian Master Plan was adopted by the City of Pacifica in February 2020.

City of Pacifica General Plan 2040

The following policies from the City of Pacifica General Plan 2040 related to transportation are applicable to the proposed project:

Circulation Element

Guiding Policies

Policy CI-G-2 **Serve All Users.** Plan, design, build, and maintain transportation improvements to support safe and convenient access for all users with priority for "complete streets" projects that facilitate walking, bicycling, and transit use wherever possible.

[7] Association of Bay Area Governments and Metropolitan Transportation Commission. *Forecasting and Modeling Report, Appendix 1: Growth Pattern*. October 2021.

Policy CI-G-4 **Vehicle Miles Traveled.** Strive to reduce overall vehicle miles travelled by developing higher-density, mixed use areas, designing pedestrian-oriented streets, and improving transit options and efficiency.

Policy CI-G-6 **Context Sensitivity.** Plan, design, and build transportation improvements so that they respect the surrounding environment.

Policy CI-G-11 **Bicycle and Pedestrian Routes.** Establish trails, bike routes and pedestrian amenities connecting neighborhoods to major shopping and public facility destinations, and fill in gaps in the existing network.

Policy CI-G-12 **Walkable Neighborhoods.** Improve pedestrian amenities to create more walkable neighborhoods, especially in mixed-use activity centers and around schools.

Implementing Policies

Policy CI-I-1 **Connective Street Network.** Require new streets created as part of new development to continue existing street patterns, and include stub access points to adjacent undeveloped areas.

Policy CI-I-5 **Streetscape in Mixed Use Areas.** Require pedestrian-oriented amenities and design in visitor-oriented commercial and mixed use areas, including wider sidewalks, curb bulb-outs at key intersections, outdoor seating, and public art. Priority streetscapes include Palmetto between Paloma and Clarendon; Montecito, Santa Rosa, and San Jose Avenues in West Sharp Park; Rockaway Beach Avenue and Dondee Way in Rockaway Beach; lower Crespi Drive and Linda Mar Boulevard in Linda Mar; Manor Drive and Aura Vista Drive in West Edgemar-Pacific Manor; and Oddstad and Terra Nova Boulevards and new streets created as part of redevelopment of the Park Mall site.

Policy CI-I-22 **Improvements for Existing Facilities.** Maintain and upgrade local streets, sidewalks, utilities, and other City infrastructure in a manner that prevents deterioration and corrects existing deficiencies.

Policy CI-I-23 **Design for Safety.** Incorporate safety measures in improvement designs for intersections, roadways, pedestrians, transit, and bicycle facilities.

Policy CI-I-24 **Development on Unimproved Streets.** Continue to require a Site Development Permit for development on lots with unimproved streets to ensure off-site improvements meet City standards. This policy will protect the visual and natural resource qualities of the hillsides and minimize adverse impacts on existing neighborhoods, drainage, traffic, land stability, and natural resources.

Policy CI-I-25 **Emergency Access.** Require all developers to incorporate emergency access needs consistent with Title 10 of the Municipal Code.

Policy CI-I-30 **Universal Design.** Require all pedestrian facilities to be ADA compliant and accessible to persons with disabilities.

4.3.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to transportation. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to transportation would occur if the proposed project would result in any of the following:

- Conflict with a program, plan, ordinance, or policy, addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards to vehicle safety due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

Specific application of the general thresholds is provided in the following section, based on guidance from the City of Pacifica and the San Mateo C/CAG.

VMT Thresholds

The City of Pacifica does not have adopted thresholds of significance related to SB 743, which requires VMT to be the metric to designate significant transportation impacts related to CEQA. As such, the VMT assessment follows the current LCI guidance related to VMT. The LCI Technical Advisory includes recommended thresholds of significance for residential and employment land use projects and recommends that VMT impacts be assessed on a per capita or per employee basis. The LCI-recommended threshold of significance is 15 percent below the existing regional VMT per capita for residential uses and 15 percent below the existing regional average daily VMT per worker for commercial uses. Therefore, the applicable threshold of significance for the proposed project's residential components is 85 percent of the existing citywide average VMT per resident. Given that the existing City-wide VMT per resident is 15.7, the applicable threshold herein is 13.34 VMT per resident (15.7 x 0.85 = 13.34). With respect to the project's commercial component, LCI recommends a threshold of generating or attracting fewer than 110 trips per day for small land use components. Therefore, if the project's commercial component would attract 110 trips per day or fewer, the commercial component would meet the applicable screening criterion and a less-than-significant impact related to VMT would occur.

Method of Analysis

The analysis of this chapter is based on the VMT Analysis prepared on September 10, 2024 for the proposed project by Hexagon. The methods used in the VMT Analysis are described in further detail below.

Project Trip Generation

The trip generation for the proposed project was calculated by Hexagon using trip generation rates published in the 11th Edition Trip Generation Manual prepared by the Institute of Transportation Engineers (ITE). Based on the size of the proposed commercial component and location of the project site, the highest probable use for the commercial component would be a medical/dental office. Therefore, the applicable rate for the commercial component of the project is category 720 (Medical-Dentist Office Building). The applicable rate for the condominiums and

townhomes are 220 (Multifamily Housing Low Rise) and 215 (Single-Family Attached Housing), respectively. Table 4.3-1 summarizes the estimated trip generation for the proposed project. As presented therein, the proposed project would result in a total of 225 daily trips, including 88 daily trips associated with the commercial component and 137 daily trips associated with the condominiums and townhomes. It should be noted that a medical/dental office use is not proposed as part of the project, but rather represents a use that is permitted by-right in the C-2 zoning district.

Vehicle Miles Traveled Assessment

LCI recommends that small land use projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact. Therefore, if a project/land use component would generate 110 trips per day or fewer, the project/land use component would meet the screening criterion and would have a less-than-significant VMT impact. The project includes two types of land uses (residential and commercial), for which the potential VMT impact was evaluated separately and compared to the screening criteria and thresholds of significance based on the land use type.

Table 4.3-1
Project Trip Generation

Land Use	ITE Code	Size	Weekday		Saturday		Sunday		Average Daily Trips
			Rate	Trips	Rate	Trips	Rate	Trips	
ITE Medical-Dental Office Building[1]	720	3.165 ksf	3.6	114	13.75	44	1.14	4	88
Total Average Daily Trips (Commercial Component Only)									**88**
ITE Single-Family Attached Housing[2]	215	16 units	7.20	115	8.76	140	7.17	115	119
ITE Multifamily Housing Low Rise[3]	220	3 units	6.74	20	4.55	14	3.86	12	18
Total Average Daily Trips (Residential Component Only)									**137**
Total Average Daily Trips (Commercial and Residential Components)									***225***

[1] *Average trip rates expressed in trips per 1,000 square feet (ksf) for Medical-Dental Office Building (Land Use 720) are used.*
[2] *Average trip rates expressed in trips per dwelling unit for Single-Family Attached Housing (Land Use 215) are used.*
[3] *Average trip rates expressed in trips per dwelling unit for Multifamily Housing Low Rise (Land Use 220) are used.*

Source: Hexagon, 2024.

As presented in Table 4.3-1, the commercial component of the proposed project would generate 88 daily trips, which would meet the LCI screening criterion for small projects and would result in a less-than-significant VMT impact. However, the proposed residences would generate more than 110 daily trips and would not meet the VMT screening criterion. As a result, Hexagon conducted a VMT analysis to evaluate the VMT impact associated with the proposed residences.

To conduct the VMT analysis for the proposed residential uses, Hexagon used the San Mateo C/CAG VMT Estimation Tool. Hexagon then compared the estimated daily VMT to the average citywide VMT to determine whether the proposed residences would generate VMT 15 percent below the average citywide VMT per capita. As previously discussed, the applicable CEQA threshold for VMT associated with the proposed project is 13.34 per capita, which is 15 percent below the citywide VMT of 15.7.

The project site is located within TAZ 1925 for which the daily VMT is estimated to be 17.3 miles per capita in the year 2024. In order for the proposed project to meet the applicable threshold of significance of 13.34 VMT per capita, a 23 percent reduction in VMT per capita would be required.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to transportation is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

4.3-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction activities associated with the proposed project would include use of construction equipment, including on-site earth-moving vehicles, bulldozers, and other heavy machinery, as well as building materials delivery, and construction worker commutes. The transport of heavy construction equipment to the site, haul truck trips, and construction worker commutes could affect the local roadway network.

Construction workers typically arrive before the morning peak hour and leave before the evening peak hours of the traditional commute time periods. Deliveries of building material (i.e., lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional commute time periods. In addition, any truck traffic to the site would follow designated truck routes, and project construction would likely stage any large vehicles (i.e., earth-moving equipment, cranes, etc.) on the site prior to beginning site work and remove such vehicles at project completion. However, detailed information related to the construction routes and equipment staging, or a construction management plan, is not available. Furthermore, Crespi Drive is the primary access roadway to the project site and provides access to the nearby residential neighborhood, school, and commercial uses. As a result, construction activities could include disruptions to the transportation network near the project site.

Without proper planning, construction activities, construction traffic and potential street closures could interfere with existing roadway operations, including pedestrian, bicycle, and transit facilities, during the construction phase. Therefore, the proposed project has the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.3-1 *Prior to grading permit issuance, the project applicant shall prepare a construction traffic management plan for review and approval by the City Engineer. The plan shall include the following:*

- *A project staging plan to maximize on-site storage of materials and equipment;*
- *A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure proceedings; signs, cones and other warning devices for drivers; and designation of construction access routes;*
- *Provisions for maintaining adequate emergency access to the project site;*
- *Permitted construction hours, per City of Pacifica standards;*
- *Designated locations for construction staging areas;*
- *Identification of parking areas for construction employees, site visitors, and inspectors, including on-site locations; and*
- *Provisions for street sweeping to remove construction-related debris on public streets.*

4.3-2 Conflict with a program, plan, ordinance or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities during operations. Based on the analysis below, the impact is *less than significant*.

As discussed throughout this chapter, LOS is no longer the applicable metric when evaluating CEQA transportation impacts of a project. The evaluation of VMT is discussed in Impact 4.3-3 of this chapter. The proposed project is a relatively minor development project on a site previously anticipated for development by the City. Therefore, the trip volume associated with the proposed project has been generally anticipated by the City, and the proposed project is not anticipated to significantly impact the existing circulation system. The following discussion focuses on whether the proposed project would result in impacts related to existing or planned pedestrian facilities, bicycle facilities, or transit facilities and services within the project area.

Pedestrian Facilities

Within the vicinity of the project site, continuous sidewalks are provided on both sides of Crespi Drive and Roberts Road. A pedestrian crosswalk is also provided at the intersection of Crespi Drive and Roberts Road, near the northeast corner of the project site. In addition, the Pacifica Rockaway Trail is located north of and runs parallel to SR 1 and can be accessed by pedestrians and bicyclists. The trail access point nearest to the project site is located at the intersection of Crespi Drive and SR 1.

The proposed project would include construction of a new driveway entrance off of Crespi Drive and a looped internal roadway. The internal roadway would be designed to meet current City standards. The proposed project would also include pedestrian connections to the proposed driveway off of Crespi Drive and access points to the pedestrian sidewalk along the south side of Crespi Drive.

In addition, the project would provide pedestrian walkways within the site and implement off-site improvements north of the existing Pacifica Community Center, including pedestrian connections within the off-site improvement area, from the project

site to the Pacifica Community Center, and a new drop-off area intended for use by the Pacifica Community Center.

The proposed project would also include striped crosswalks, which would connect Building A and Building C. As part of the proposed project, a striped crosswalk would be located along the new east-to-west driveway at the Pacifica Community Center property.

Overall, the proposed project would provide new pedestrian connections to existing pedestrian facilities. The proposed on-site and off-site pedestrian improvements would not physically disrupt an existing pedestrian facility, nor interfere with implementation of a planned pedestrian facility. Additionally, the proposed project would not result in an increased presence of vehicles and/or pedestrians on pedestrian facilities, such that conflicts between pedestrians and other travel modes would be likely to increase.

Therefore, the proposed project would not conflict with adopted policies, plans, or programs regarding pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Bicycle Facilities

As mentioned above, the Pacifica Rockaway Trail runs parallel to SR 1 and can be accessed by pedestrians and bicyclists. The trail access point nearest to the project site is located at the intersection of Crespi Drive and SR 1. As illustrated on Figure 4.3-1, the City plans to develop a Class I bike path, which would run parallel to SR 1, northwest of the project site. In addition, as presented on Figure 4.3-1, the City plans to develop a Class II bike lane on a segment of Crespi Drive from SR 1 to Roberts Road, a Class III bike route along the remaining entirety of Crespi Drive, and a Class IV separated bikeway along Roberts Road to the northeast of the project site.

While the proposed project would not provide new bicycle connections to existing bicycle facilities, development of the proposed project would not physically disrupt an existing bicycle facility, nor interfere with implementation of a planned bicycle facility. Due to the relatively small size of the proposed project, the project is not expected to generate a significant amount of bicycle trips nor result in an increased presence of vehicles, such that conflicts between bicyclists and other travel modes would be likely to increase. Therefore, the demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Based on the above, the proposed project would not conflict with adopted policies, plans, or programs regarding bicycle facilities, or otherwise decrease the performance or safety of such facilities.

Transit Facilities

Several SamTrans connections are located within the vicinity of the project site. For example, SamTrans runs lines 110, 112, and 118 with a stop on Crespi Drive, west of the project site frontage, a stop further east near the intersection of Crespi Drive and Roberts Road, and another stop near the intersection of SR 1 and Crespi Drive. Routes 110 and 112 provide service between the SR 1 corridor in the City of Pacifica and the Daly City and Colma BART stations, respectively; both lines terminate at Linda

Mar Shopping Center. Routes 110 and 112 have half-hour to one-hour headways, and run on both weekdays and weekends. Route 118 provides service to Colma BART station during the AM and PM peak hour periods of weekdays, on 15- to 35-minute headways. All SamTrans buses are accessible to persons with disabilities.

Furthermore, Mitigation Measure 4.3-3 below requires implementation of CAPCOA VMT reduction strategy T-9 Implement Subsidized or Discounted Transit Program. Specifically, Mitigation Measure 4.3-3 would require each new resident to be provided with two free one-year transit passes upon original purchase of the residence from the developer. By providing residents with transit passes, new residents may be encouraged to use transit rather than driving to work. It should be noted that implementation of Mitigation Measure 4.3-3 would not reduce potential project-related impacts to transit facilities to a less-than-significant level, as described below.

Given the small number of residents that would be added, the proposed project would only slightly increase transit riders, and the demands of the proposed project could be accommodated by the existing transit facilities and services.

Thus, the proposed project would not conflict with adopted policies, plans, or programs regarding transit facilities, or otherwise decrease the performance or safety of such facilities.

Conclusion

Based on the above, the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus turnouts, bicycle lanes, bicycle racks, public transit, pedestrian facilities, etc.). Thus, the project would result in a ***less-than-significant*** impact to pedestrian, bicycle, and transit facilities.

Mitigation Measure(s)

None required.

4.3-3 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.

As previously discussed, the commercial component of the proposed project would generate 88 daily trips, which would meet the LCI screening criterion for small projects and would result in a less-than-significant VMT impact. However, the proposed residences would generate more than 110 daily trips and would not meet the VMT screening criterion. As a result, Hexagon conducted a VMT analysis to evaluate the VMT impact associated with the proposed residences. Table 4.3-2 summarizes the results of the VMT analysis prepared for the proposed project.

The average VMT per resident for the City of Pacifica was identified to be 15.7. As discussed previously, consistent with San Mateo C/CAG and LCI guidance, residential projects that generate average VMT per resident at 15 percent less than the regional baseline average may be considered to have a less-than-significant VMT impact.

Therefore, the VMT threshold applied to the proposed project is 15 percent less than the regional baseline, or 13.34 VMT per capita.

Table 4.3-2
Project VMT Analysis Results

City of Pacifica		Proposed Project
VMT/Resident	**Threshold of Significance**	**VMT/Resident**
15.7	13.34	17.3

Source: Hexagon, 2024.

The project site is located within TAZ 1925 for which the daily VMT is estimated to be 17.3 miles per capita in the year 2024. The VMT for the TAZ, including the project site, is considered to be representative of the project itself because the proposed residences are equivalent in density and intensity to the other residential development in the area. As such, the proposed project is estimated to generate 17.3 daily VMT per resident, which exceeds the identified VMT threshold of significance. Because the daily VMT per capita associated with proposed residences is higher than the threshold VMT of 13.34 per capita, the project could have a significant impact related to VMT.

The CAPCOA Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity[8] sets forth effective VMT reduction strategies, which are supported by substantial evidence. Potential CAPCOA VMT reduction strategies should be relevant to the project's location and land use context. It should be noted that most of the CAPCOA VMT reduction strategies also reduce GHG emissions and criteria pollutants, considered co-benefits, by reducing the source metric of VMT (i.e., vehicle ownership, number of vehicle trips, and trip distance).

Based on the VMT Analysis prepared by Hexagon, the CAPCOA strategies that are applicable to and feasible for the proposed project are:

- **T-4. Integrate Affordable and Below Market Rate Housing** – This measure requires below market rate (BMR) housing. BMR housing provides greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit. It is also an important strategy to address the limited availability of affordable housing that might force residents to live far away from jobs or school, requiring longer commutes. The quantification method for this measure accounts for VMT reductions achieved for multifamily residential projects that are deed restricted or otherwise permanently dedicated as affordable housing.
- **T-9. Implement Subsidized or Discounted Transit Program** – This measure requires the provision of subsidized, discounted, or free transit passes for employees and/or residents. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT and thus a reduction in GHG emissions.
- **T-18. Provide Pedestrian Network Improvement** – This measure requires an increase to sidewalk coverage to improve pedestrian access. Providing

[8] California Air Pollution Control Officers Association. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. December 2021.

sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions.

CAPCOA VMT reduction strategies T-4 and T-18 would be implemented through the proposed project's design and proposed affordable housing. For example, consistent with CAPCOA VMT reduction strategy T-4, the proposed project would provide affordable housing units consistent with the requirements of the City's Inclusionary Housing Ordinance. Pursuant to guidance from the CAPCOA Handbook's GHG Reduction Formulas and calculations from the San Mateo C/CAG VMT Estimation Tool, Hexagon determined that a 2.3 percent VMT reduction can be achieved as a result of the project's compliance with CAPCOA VMT reduction strategy T-4. In addition, consistent with CAPCOA VMT reduction strategy T-18, the project would provide pedestrian walkways within the site and implement off-site improvements north of the existing Pacifica Community Center, including pedestrian connections within the improvement area and from the project site to the Pacifica Community Center. According to Hexagon, the creation of pedestrian-friendly connections reduces automobile trips and increases the likelihood of residents walking. Pursuant to guidance from the CAPCOA Handbook's GHG Reduction Formulas and calculations from the San Mateo C/CAG VMT Estimation Tool, Hexagon determined that a 1.7 percent VMT reduction can be achieved as a result of the project's compliance with CAPCOA VMT reduction strategy T-18.

Based on the above, implementation of CAPCOA VMT reduction strategies T-4 and T-18 would result in a four percent VMT reduction. Thus, residential VMT associated with the proposed project would be reduced to 16.61, which is still above the LCI-recommended impact threshold of 13.34 VMT per capita. Because the proposed project would generate VMT that exceeds the applicable threshold, the project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a ***significant*** impact could occur.

Mitigation Measure(s)

CAPCOA VMT reduction strategy T-9 would reduce the out-of-pocket cost for choosing transit and would improve the competitiveness of transit against driving. CAPCOA VMT reduction strategy T-9 is not already incorporated into the proposed project. Therefore, implementation of the strategy would be required by Mitigation Measure 4.3-3. Implementation of Mitigation Measure 4.3-3 would reduce residential VMT per capita associated with the project residential component by implementing CAPCOA reduction strategy T-9 to reduce external vehicle trips generated by project residents and increase the total number of transit trips. *According to CAPCOA, implementation of VMT reduction strategy T-9 would reduce project-generated residential VMT per capita by 0.6 percent.* With Mitigation Measure 4.3-3, residential VMT per capita generated by the project's residential component would be 18.4 percent above baseline local VMT per capita average. Therefore, even with mitigation, project-generated residential VMT per capita would be more than 15 percent below baseline local and regional residential VMT per capita averages, and the impact would remain *significant and unavoidable*.

4.3-3 *The project applicant shall implement the following CAPCOA VMT reduction strategy T-9 to reduce the number of vehicle trips that would be generated by future residents, subject to review and approval by the City Engineer. The timing for the strategy is set forth below:*

Implement subsidized or discounted transit program (CAPCOA Handbook Strategy T-9)

The proposed project shall provide subsidized or discounted, or free transit passes for residents of the project's 19 dwelling units.

Prior to occupancy of the multi-family residential units, the project applicant shall provide two free one-year transit passes to residents of the project's 19 dwelling units.

4.3-4 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) or result in inadequate emergency access. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The proposed project would not include the installation of any sharp curves or dangerous intersections. Given the proposed mixed-use development, the use of incompatible equipment would not occur. For example, given the proposed residential use, farming equipment would be unlikely to operate on-site. During construction, equipment would be staged on-site. In addition, as required by Mitigation Measure 4.3-1, a construction traffic management plan would be implemented during construction, which would ensure that roadway hazards would not occur.

Several factors determine whether a project has sufficient access for emergency vehicles, including the following:

1. Number of access points (both public and emergency access only);
2. Width of access points; and
3. Width of internal roadways.

Vehicles would have access to and from the project site by way of a proposed driveway off of Crespi Drive. In addition, a new west-to-east driveway off Crespi Drive would be constructed along the northern boundary of the Pacifica Community Center. Egress from the site would be provided by way of a connection to the existing driveway from the Pacifica Community Center and then back onto Crespi Drive. The proposed project would not include any substantial modifications to the planned roadway system in the project area.

The proposed project would be required to comply with all building, fire, and safety codes and specific development plans would be subject to review and approval by the City's Public Works Department, Pacifica Police Department, and the North Country Fire Authority (NCFA). The aforementioned departments have reviewed the proposed

circulation system for the project site and determined that proposed project would provide adequate emergency access. According to the NCFA, the required access of 26 feet would not be met with the proposed site plan. Therefore, the proposed project would be required to implement Mitigation Measure IX-3 as set forth in Section IX, Hazards and Hazardous Materials, of the Initial Study prepared for the proposed project (see Appendix A). As required by Mitigation Measure IX-3, prior to the issuance of a building permit, the project shall demonstrate compliance with the 26-foot access road width, or obtain Fire Marshall approval of an Alternative Methods and Materials request by the NCFA to deviate from the 26-foot access road width requirement for the proposed project.

Based on the above, without adjustments to the existing driveway or approval of Alternative Methods and Materials request, emergency access to the project site would not be considered adequate. Thus, the proposed development project could substantially increase hazards due to a geometric design feature, or result in inadequate emergency access, and result in a ***significant*** impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a less-than-significant level.

4.3-4 Implement Initial Study Mitigation Measure IX-3.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

It should be noted that increased traffic volumes on local roadway facilities under cumulative conditions would not substantially alter performance related to pedestrian facilities, bicycle facilities, transit facilities and services, hazards, and emergency vehicle access. Rather, impacts to such facilities under cumulative conditions would be identical to those discussed above under Impacts 4.3-1, 4.3-2, and 4.3-4. In addition, construction activities associated with the project would be complete prior to the cumulative analysis year. Therefore, such topics are not discussed further in the cumulative analysis presented herein.

Similarly, the VMT impact analysis for buildout of the proposed project included under Impact 4.3-3 would also apply to Cumulative Plus Project conditions. The VMT significance threshold compares project-generated residential VMT per capita to that of existing local and regional development. The VMT comparison is useful because the comparison provides information regarding how a project aligns with long-term environmental goals related to VMT established

based on existing development levels. Use of VMT significance thresholds based on existing development levels is recommended in the LCI Technical Advisory. The Technical Advisory indicates that VMT efficiency metrics, such as VMT per capita, may not be appropriate for CEQA cumulative analysis because they employ a denominator. Instead, the Technical Advisory recommends that an impact finding from an efficiency-based project-specific VMT analysis (i.e., Existing Plus Project conditions) would imply an identical impact finding for a cumulative VMT analysis.[9] An example provided by LCI explains that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Therefore, an analysis of VMT is not presented in this section as the conclusion would remain identical to that presented under Impact 4.3-3.

[9] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA* [pg. 6]. December 2018.

5. Statutorily Required Sections

5. STATUTORILY REQUIRED SECTIONS

5.1 INTRODUCTION

The Statutorily Required Sections chapter of the Draft EIR includes discussions regarding those topics that are required to be included in an EIR, pursuant to CEQA Guidelines, Section 15126.2. The chapter includes a discussion of the proposed project's potential to result in growth-inducing impacts; the cumulative setting analyzed in this EIR; significant irreversible environmental changes; and significant and unavoidable impacts caused by the proposed project.

5.2 GROWTH-INDUCING IMPACTS

State CEQA Guidelines Section 15126.2(e) requires an EIR to evaluate the potential growth-inducing impacts of a proposed project. Specifically, an EIR must discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems (e.g. roadways, utilities) beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped.

The CEQA Guidelines are clear that while an analysis of growth-inducing effects is required, it should not be assumed that induced growth is necessarily significant or adverse. This analysis examines the following potential growth-inducing impacts related to implementation of the proposed project and assesses whether these effects are significant and adverse (see *CEQA Guidelines*, Section 15126.2[e]):

1. Foster population and economic growth and construction of housing.
2. Eliminate obstacles to population growth.
3. Affect service levels, facility capacity, or infrastructure demand.
4. Encourage or facilitate other activities that could significantly affect the environment.

Foster Population and Economic Growth and Construction of Housing

As discussed in Section XIV, Population and Housing, of the Initial Study prepared for the proposed project (see Appendix A of this EIR), the proposed 19-unit, mixed-use development would increase the housing available within the project vicinity, and lead to an increase of population in the area. Using the U.S. Census Bureau's 2.71 persons per household estimate for the City of Pacifica average household size, the project is expected to accommodate approximately 52 new residents (2.71 x 19 dwelling units). The U.S. Census Bureau estimated the 2023 population of Pacifica to be approximately 36,426. The increase in population associated with the proposed project would constitute a 0.14 percent increase in the City's population which would not be considered substantial growth. While the City of Pacifica's General Plan currently designates Parcel 2 as Public and Semi Public, and Park, and, therefore, a General Plan Amendment would be required to redesignate the 0.70-acre portion of Parcel 2 to Mixed Use

Center, the majority of the project site (i.e., Parcel 1) is currently designated Mixed Use Center. Mixed Use Center permits the construction of ground level housing and commercial uses, providing for a residential density range of 30 to 50 units per gross acre. The proposed project includes a Zoning Text Amendment to ensure the City's zoning code allows residential uses to be constructed on the ground level consistent with the Mixed Use Center land use designation; however the amendment does not affect the overall allowable residential density. Thus, the population growth that would occur as a result of the project has generally been previously anticipated by the City and evaluated in the General Plan EIR.

Additionally, the proposed project would not result in any indirect population growth from extension of major infrastructure because, as discussed in Section XIX, Utilities and Service Systems, of the Initial Study, adequate utility infrastructure already exists in the project vicinity to support the proposed project.

In regard to economic growth, the proposed mixed-use development would include 3,165 square feet (sf) of commercial space on the ground floor of Building A. The 3,165 sf of commercial space would result in long-term employment within the area; however, the potential growth induced by the proposed commercial components of the project is not likely to be significant, given that the project is generally consistent with what has been anticipated in the General Plan EIR, as described above. In addition, the relatively small size of the commercial space, which could be used for any number of commercial purposes, would not result in economic growth on the scale of a new major employment center. Additionally, the development would provide short-term employment opportunities in the form of jobs associated with construction activities. Such jobs would likely be filled from the local employee base and would not generate long-term employment growth within the project area. Thus, the long-term economic growth generated by the proposed mixed-use development would not be significant or adverse.

Overall, all physical environmental effects of the proposed project, including the proposed residences and commercial use, have been addressed throughout this EIR and the Initial Study prepared for the proposed project. Therefore, based on the above information, the proposed project would not be anticipated to foster population or economic growth and construction of unanticipated housing.

Eliminate Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

Development of the proposed project would include the construction of new water, sanitary sewer, and stormwater conveyance connections to existing infrastructure within the project vicinity. The existing infrastructure would be sufficient to accommodate the proposed project. As concluded in Section XIX, Public Utilities and Service Systems, of the Initial Study, the proposed project would not require or result in the relocation or construction of new or expanded utility systems. In addition, the utility infrastructure proposed for the project site would be sized to specifically serve the proposed project. Therefore, construction of the proposed on-site utility improvements would not eliminate a physical obstacle that would create a growth-inducing effect.

Primary access to the project site would be provided from Crespi Drive. The proposed project would include internal roads and parking, as well as off-site improvements to the north of the site adjacent to the Pacifica Community Center, including a new driveway, 17 uncovered parking stalls, and a drop off area. The off-site improvements would not increase traffic or modify the existing operation of the Pacifica Community Center. Furthermore, the roadway improvements would not provide any connections beyond the improvements designed specifically to serve the proposed project. Therefore, construction of the proposed project would not eliminate a physical or regulatory obstacle that would create a growth-inducing effect.

Affect Service Levels, Facility Capacity, or Infrastructure Demand

Increases in population that would occur as a result of a project could significantly strain existing community service facilities, requiring construction of new facilities that could cause significant environmental impacts. As discussed in Section XV, Public Services, of the Initial Study, increased demands for fire and police protection services attributable to the proposed project would not necessitate the construction of new or expanded facilities that could cause significant environmental impacts. In addition, as discussed in Section XIX, Utilities and Service Systems, of the Initial Study, wastewater generated by the proposed project could be accommodated by the Calera Creek Water Recycling Plant (CCWRP), and, pursuant to the North Coast County Water District 2020 Urban Water Management Plan, sufficient water supplies would be available to serve the City and the proposed project in normal, single dry, and multiple dry years through 2045. Finally, the Ox Mountain Landfill, Los Trancos Canyon Landfill, and/or the Apanolio Canyon Landfill, which would serve the proposed project, have adequate capacity to manage the solid waste generated as a result of the project. Furthermore, as discussed in Section X, Hydrology and Water Quality, of the Initial Study, the proposed project would not create or contribute runoff water that would exceed the capacity of the City's storm drain system.

Based on the above, the proposed project would not increase population such that service levels, facility capacity, or infrastructure demand would require construction of new facilities that could cause significant environmental impacts.

Encourage or Facilitate other Activities That Could Significantly Affect the Environment

This EIR and the accompanying Initial Study provide a comprehensive assessment of the potential for environmental impacts associated with implementation of the proposed project. Please refer to Chapters 4.1 through 4.3 of this EIR and the Initial Study (see Appendix A of this EIR), which comprehensively address the potential for impacts from urban development on the project site.

5.3 CUMULATIVE IMPACTS

CEQA Guidelines, Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that would adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects" (CEQA Guidelines, Section 15355, subd. [a]). "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines, Section 15355, subd. [b]).

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and, thus, significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines, Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). Accordingly, particular impacts may be less than significant on a project-specific basis but significant on a cumulative basis if their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable. However, it should be noted that CEQA Guidelines, Section 15064, Subdivision (h)(5) states, "[…]the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Section 15130(b) of CEQA Guidelines indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, but that analysis should reflect the severity of the impacts and their likelihood of occurrence, and that the analysis should be focused, practical, and reasonable. To be adequate, a discussion of cumulative effects must include the following elements:

> (1) Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency's control, or (b) a summary of projections contained in an adopted general plan or related planning document, or in a prior certified EIR, which described or evaluated regional or area-wide conditions contributing to the cumulative impact, provide that such documents are reference and made available for public inspection at a specified location;
>
> (2) A summary of the individual projects' environmental effects, with specific reference to additional information and stating where such information is available; and
>
> (3) A reasonable analysis of all of the relevant projects' cumulative impacts, with an examination of reasonable, feasible options for mitigating or avoiding the project's contribution to such effects (Section 15130[b]).

For some projects, the only feasible mitigation measures will involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis (Section 15130[c]). Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund the project's fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

A discussion of cumulative impacts is provided within each of the technical chapters of this EIR pursuant to CEQA Guidelines Section 15130.

Cumulative Setting

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in

a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

As discussed above, two approaches exist for identifying cumulative projects and their associated impacts. The "list" approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The "projection" approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. The majority of the cumulative analysis in this EIR is based upon the buildout projections included in the City of Pacifica General Plan.

Some situations exist where the geographic setting differs for the various resource areas. For example, global climate change is, by nature, a cumulative impact. Emissions of greenhouse gases (GHG) contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). A single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, the combination of GHG emissions from a project in combination with other past, present, and future projects could contribute substantially to the world-wide phenomenon of global climate change and the associated environmental impacts. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA, and due to the regulatory context pertaining to GHG emissions and global climate change applicable to the proposed project, the geographical context for global climate change in this EIR is limited to the State of California.

Cumulative impacts are analyzed in the Initial Study prepared for the 570 Crespi Drive Project where appropriate, along with each of the technical chapters of this EIR, where the specific cumulative setting for each resource area is presented along with the cumulative impact discussion in the relevant resource area section of the EIR.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As established in CEQA Guidelines Section 15126.2(c), this EIR is required to include consideration of significant irreversible environmental changes that would be caused by the proposed project, should the project be implemented. An impact would be determined to be a significant and irreversible change in the environment if:

- Buildout of the project area could involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of development could generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project could involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project could result in an unjustified consumption of resources (e.g., the wasteful use of energy).

The proposed project would likely result in, or contribute to, the following significant irreversible environmental changes:

- Conversion of predominantly vacant land to a mixed-use development with residential and commercial uses, thus precluding alternative land uses in the future;

- Irreversible consumption of goods and services, such as fire, police, and school services, associated with the future population; and
- Irreversible consumption of energy and natural resources, such as water and electricity, associated with the future residential and commercial uses.

The impacts listed above result from the irreversible consumption of resources due to the buildout of the project and resulting residents, and would be significant and irreversible. The cumulative impacts of the proposed project are discussed throughout this EIR and the Initial Study, as appropriate.

5.5 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to CEQA Guidelines, an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented (CEQA Guidelines Section 15126.2[b]). Such impacts would be considered unavoidable when the determination is made that either mitigation is not feasible or only partial mitigation is feasible such that the impact is not reduced to a level that is less than significant. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigations imposed by the City. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the City as part of the City's certification action. The significant and unavoidable impacts of the proposed project are summarized below.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (Impact 4.2-1)

The proposed project would comply with applicable Bay Area Air Quality Management District (BAAQMD) Buildings Criterion a., related to the prohibition of natural gas and Building Criterion b., related to the wasteful, inefficient, or unnecessary use of energy. However, the proposed project has the potential to conflict with BAAQMD Transportation Criterion c., related to vehicle miles traveled (VMT) and Transportation Criterion d, related to the provision of EV charging stations. Implementation of Mitigation Measure 4.2-1(a) would ensure project consistency with Transportation criterion d. Mitigation Measure 4.2-1(b) would address Transportation criterion c. However, as discussed further in Chapter 4.3, Transportation, of this EIR, implementation of the measures required by Mitigation Measure 4.2-1(b) would reduce project VMT, but not to a level that would fall below the established significance threshold of 15 percent less than the regional average VMT. Therefore, even with implementation of Mitigation Measure 4.2-1(b), the project would not comply with BAAQMD's Transportation criterion c. Consequently, even with implementation of mitigation, the project's incremental contribution to the cumulatively significant effects of GHG emissions and global climate change would remain *cumulatively considerable* and *significant and unavoidable*.

Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). (Impact 4.3-3)

The project's VMT rate would exceed the applicable threshold of 13.34 VMT per capita. Implementation of Mitigation Measure 4.3-3 would reduce residential VMT per capita associated with the project residential component, but not to a level below the applicable threshold of significance. Therefore, even with implementation of Mitigation Measure 4.3-3, project-generated

residential VMT per capita would exceed the applicable threshold of significance, and the impact would remain *significant and unavoidable*.

6. Alternatives Analysis

6. ALTERNATIVES ANALYSIS

6.1 INTRODUCTION

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required by CEQA Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; a reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

6.2 PURPOSE OF ALTERNATIVES

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[…] describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> [...]capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, "The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Section 15126.6(f) of CEQA Guidelines further states:

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these

alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6[b]).

- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Project Objectives

Based on the above, reasonable alternatives to the project must be capable of feasibly attaining most of the basic objectives of the project. The following objectives have been submitted by the project applicant:

1. Create a viable mixed-use project that responsibly maximizes the potential for the development of the site.
2. Accentuate and strengthen the commercial streetscape by fronting the mixed-use building on Crespi Drive.
3. Take advantage of combining vehicle circulation with the existing Pacifica Community Center.
4. Consider parking demand over time for commercial and residential uses to minimize the overall need to devote land to parking.
5. Concentrate development towards the front of the site, preserving a generous amount of open space at the rear of the property in its natural state.
6. Foster connectivity and interaction with the Pacifica Community Center.

Impacts Identified in the EIR

In addition to attaining the majority of project objectives, reasonable alternatives to the proposed project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the proposed project. The significant impacts identified in the EIR are

presented in Table 6-1; the significant and unavoidable impacts identified in the EIR are also presented below.

- ***Greenhouse Gas Emissions.*** The EIR determined that the proposed project would result in a significant and unavoidable impact related to generating greenhouse gas (GHG) emissions. Specifically, the proposed project has the potential to conflict with Bay Area Air Quality Management District's (BAAQMD) Transportation criterion c., related to vehicle miles traveled (VMT). Implementation of Mitigation Measure 4.2-1(b) as established by Chapter 4.3, Transportation, of this EIR, would reduce project VMT, but not to a level that would achieve 15 percent less than the regional average VMT. Therefore, even with the implementation of Mitigation Measure 4.2-1(b), the proposed project would not comply with BAAQMD's Transportation criterion c. and could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

- ***Transportation.*** The EIR determined that the proposed project would result in a significant and unavoidable impact related to a conflict with CEQA Guidelines Section 15064.3, subdivision (b), which is related to VMT. CAPCOA strategies are currently incorporated to the proposed project through inherent project design features. Even with implementation of Mitigation Measure 4.3-3, residential VMT per capita generated by the project residential component would be 18.4 percent above baseline local VMT per capita average. As such, even with mitigation, project-generated residential VMT per capita would exceed the 15 percent below baseline local and regional residential VMT per capita thresholds, and the impact would remain significant and unavoidable.

6.3 SELECTION OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the significant environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to "set forth only those alternatives necessary to permit a reasoned choice." As stated in Section 15126.6(a), an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

Another consideration for alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Considered But Dismissed From Further Analysis

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant impacts, while still meeting most of the basic project objectives.

As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

(i) failure to meet most of the basic project objectives,
(ii) infeasibility, or
(iii) inability to avoid significant environmental impacts.

Regarding item (ii), infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

The Buildout Pursuant to the General Plan Alternative and Buildout Pursuant to the Existing Zoning Alternative were considered but dismissed from detailed analysis in this EIR. The reason(s) for dismissal, within the context of CEQA Guidelines Section 15126.6(c), are provided below.

Buildout Pursuant to the General Plan Alternative

The Buildout Pursuant to the General Plan Alternative would consist of buildout of the site consistent with the existing General Plan land use designation of Mixed Use Center. Buildout of the project site pursuant to the existing General Plan land use designation would likely result in greater impacts to the environmental issue areas identified in this EIR, as alternative development projects are not guaranteed to preserve the biological habitat in the western portion of the site. In addition, in accordance with CEQA Guidelines Section 15126.6(c), the Alternative would not be feasible for the proposed project, as the requested General Plan Amendment is intended to redesignate the off-site improvement area from the Public and Semi-Public and Park land use designations to Mixed Use Center. Requiring the proposed project to develop Public and Park land uses in the off-site improvement area would result in failure to meet the project objectives. Several project objectives do not serve as general goals that could be easily adapted to different uses, as alternative uses would likely not include the off-site improvements included as part of the proposed project. For example, Objectives 3 and 6 are related to the proposed connections and interaction with the Pacifica Community Center that alternative mixed-use projects are not guaranteed to include. Given these reasons, the Buildout Pursuant to the General Plan Alternative would fail to meet most of the basic project objectives. Thus, the alternative is hereby dismissed from further review.

Buildout Pursuant to the Existing Zoning Alternative

The Buildout Pursuant to the Existing Zoning Alternative would require the site to be developed consistent with the existing Controlled Manufacturing District (M-1) zoning designation. Pursuant

to Section 9-4.1601 of the City's Municipal Code, allowed uses under the M-1 zoning district are consistent with the uses in the C-3 zoning district, which include, but are not limited to, warehouses, storage facilities, large-scale production, and shops, such as glass, welding, cabinetry, sheet metal work, paint mixing, upholstery, machine shops, and sign shops. Such uses would not be compatible with the existing surrounding uses, which include the Pacifica Community Center, residences, and an elementary school. Buildout of the project site pursuant to the existing zoning designation would likely result in greater impacts, as alternative development projects are not guaranteed to preserve the biological habitat in the western portion of the site. Several project objectives, including Objectives 3 and 6, do not serve as general goals that could be easily adapted to different uses. In addition, developing the project site with uses consistent with the M-1 zoning designation would conflict with Objective 4, related to residential parking demand. Therefore, if the project applicant revised the proposed project to be consistent with the existing zoning designations, the majority of the objectives would likely not be met.

Given these reasons, the Buildout Pursuant to the Existing Zoning Alternative would fail to meet most of the basic project objectives. Thus, the alternative is hereby dismissed from further review.

Alternatives Considered in this EIR

The following alternatives are evaluated in this section:

1. No Project (No Build) Alternative;
2. 100 Percent Affordable Housing Alternative; and
3. Reduced Intensity Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each alternative's consistency with the project objectives and evaluation of impacts to the existing environment in comparison to the proposed project's identified impacts. While an effort has been made to include quantitative data for certain analytical topics, where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6(d), which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the proposed project. When comparing the potential impacts resulting from implementation of the foregoing alternatives, the following terminology is used:

- "None" = No Impact;
- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project; and
- "Greater" = Greater than Proposed Project.

When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the proposed project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the proposed project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the proposed project altogether. Similarly, use of the term "greater" does not necessarily imply that an alternative would require additional mitigation beyond what has been

required for the proposed project. To the extent possible, this analysis will distinguish between the two implications of the comparative words "fewer" and "greater."

See Table 6-1 for a comparison of the environmental impacts resulting from the considered alternatives and the proposed project.

No Project (No Build) Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

> "… discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

The City has decided to evaluate a No Project (No Build) Alternative, which assumes that the current conditions of the project site would remain, and the site would not be developed. As described in this EIR, the project site is currently undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. The western portion of the site is disturbed due to landscape improvements, while the southern portion is predominantly characterized by a seasonal drainage and wetland area. The No Project (No Build) Alternative would not meet any of the project objectives.

Biological Resources

Under the No Project (No Build) Alternative, construction activities, including ground disturbance, would not occur on the project site. As such, the Alternative would not have the potential to impact special-status plant species, the California red-legged frog, saltmarsh common yellowthroat, and other migratory bird and raptor species protected under the MBTA. The disturbance and possible fill of the on-site waters of the State would not occur, nor would any removal of potential riparian vegetation or trees. As such, the mitigation measures identified for the proposed project related to biological resources would not be required under the Alternative. Overall, impacts related to Biological Resources would not occur under the No Project (No Build) Alternative.

Greenhouse Gas Emissions

Under the No Project (No Build) Alternative, the project site would remain undeveloped. As discussed in further detail below, because the impact related to VMT would be eliminated under the No Project (No Build) Alternative, the significant and unavoidable impact related to GHG emissions would not occur. Thus, the mitigation measures identified for the proposed project

related to GHG emissions would not be required. Overall, significant impacts related to GHG emissions and VMT would not occur under the No Project (No Build) Alternative.

Transportation

Under the No Project (No Build) Alternative, the project site would remain undeveloped. Because development of new residential and commercial uses would not occur under the No Project (No Build) Alternative, the Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, result in a significant and unavoidable impact related to a conflict with CEQA Guidelines Section 15064.3, subdivision (b), substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access. Thus, all mitigation measures identified for the proposed project related to transportation would not be required. Overall, significant impacts related to Transportation would not occur under the No Project (No Build) Alternative.

Initial Study

Because the project site would remain undeveloped, the No Project (No Build) Alternative, would not result in any impacts related to the environmental issue areas identified for the proposed project in the Initial Study.

100 Percent Affordable Housing Alternative

The 100 Percent Affordable Housing Alternative would consist of similar buildout of the components of the proposed project, including a two-story mixed-use building (Building A), two three-story residential buildings (Buildings B and C), and the same off-site improvements as the proposed project north of the existing Pacifica Community Center. However, under the 100 Percent Affordable Housing Alternative, the 19 proposed units would be made affordable units, available to buyers with low to moderate incomes. Because the 100 Percent Affordable Housing Alternative would include development of the same uses as the proposed project, all of the project objectives would be met.

Biological Resources

Because the 100 Percent Affordable Housing Alternative would involve the same buildout as the proposed project and associated ground-disturbing activities on the project site, the same potential to impact special-status plant species, the California red-legged frog, saltmarsh common yellowthroat, and other migratory bird and raptor species protected under the MBTA would occur as the proposed project. In addition, the 100 Percent Affordable Housing Alternative would include the disturbance and possible fill of the on-site waters of the State and the removal of on-site trees and potential riparian vegetation. As such, all mitigation measures related to biological resources would still be required. Overall, impacts related to biological resources would be similar under the Alternative compared to the proposed project.

Greenhouse Gas Emissions

As discussed in further detail under the Transportation section below, because VMT associated with the 100 Percent Affordable Housing Alternative would be less than significant, the Alternative would comply with BAAQMD Transportation criterion c. As a result, all mitigation measures related to GHG emissions would not be required. The Alternative would result in fewer impacts related to GHG emissions as compared to the proposed project, and the significant and unavoidable impacts that would occur under the proposed project would be eliminated.

Transportation

Under the 100 Percent Affordable Housing Alternative, the commercial uses would generate similar daily trips to the proposed project and would screen out under the applicable 110 trip threshold from the Governor's Office of Land Use and Climate Innovation (LCI). With respect to the residential daily trips, according to LCI, adding affordable housing to an area generally improves the jobs-housing match, in turn shortening commutes and reducing VMT because low-wage workers in particular are more likely to choose a residential location close to their workplace if one is available. Additionally, even in areas where the existing jobs-housing match is closer to optimal, affordable housing is still shown to generate less VMT than market-rate housing. As such, LCI advises that potential impacts related to VMT screen out as less-than-significant for projects with 100 percent affordable development.[1] Because the 100 Percent Affordable Housing Alternative would require all proposed residences to be affordable housing, the Alternative would be considered to have a less-than-significant impact related to VMT. However, because construction would still occur on-site, construction traffic and potential street closures could interfere with existing roadway operations. Therefore, Mitigation Measure 4.3-1 would still apply. In addition, because the Alternative would not include adjustments to the existing driveway, emergency access to the project site would not be considered adequate and Mitigation Measure 4.3-4 would still be required.

Overall, because the 100 Percent Affordable Housing Alternative would involve reduced VMT, the Alternative would result in fewer impacts related to transportation as compared to the proposed project, and the significant and unavoidable impact that would occur under the proposed project would be eliminated.

Initial Study

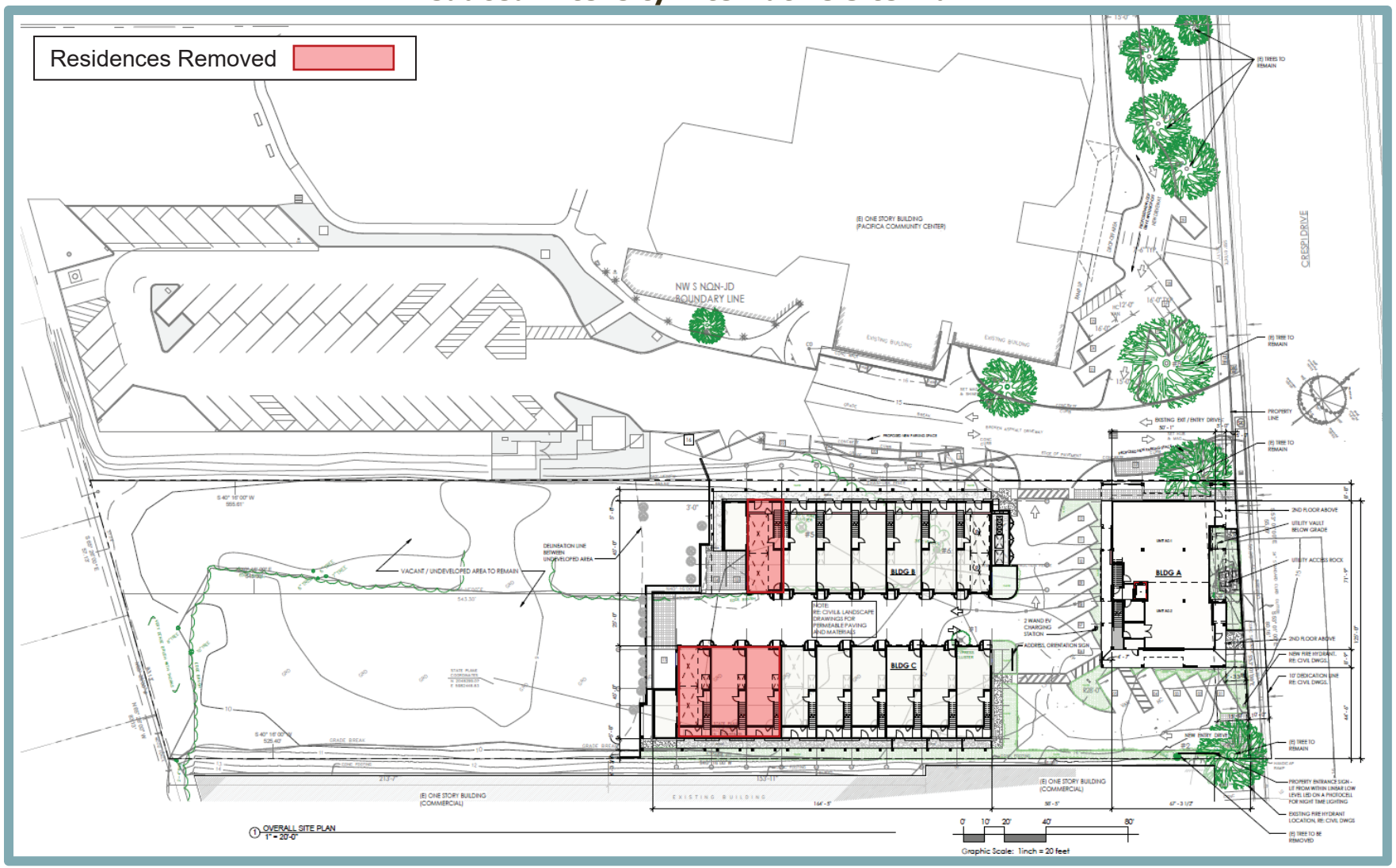
Because the 100 Percent Affordable Housing Alternative would include the same disturbance area as the proposed project, impacts identified and fully mitigated in the Initial Study prepared for the proposed project would be similar under the Alternative. Accordingly, a detailed comparison of potential impacts associated with the environmental issue areas as a result of the 100 Percent Affordable Housing Alternative and the proposed project is not included. Rather, the mitigation measures within the Initial Study required to reduce significant impacts related to ground disturbance, such as impacts related to cultural resources, geology and soils, hazards and hazardous materials, and tribal cultural resources, to less than significant, would still be required. Specific impacts in the Initial Study requiring mitigation are included in Table 6-1.

Reduced Intensity Alternative

The Reduced Intensity Alternative would eliminate four residences from the project by reducing Building C by three units and Building B by one unit, for a total of 15 units (see Figure 6-1). As discussed throughout this EIR, the proposed project would provide affordable housing units consistent with the requirements of the City's Inclusionary Housing Ordinance. The affordable units, which would be located within Building A, would remain as proposed. Buildings B and C would remove the units from the end closest to the existing wetlands, thereby increasing the buffer distance between the development and the wetlands. All other aspects of the proposed project would be similar under the Reduced Intensity Alternative, including the off-site improvements.

[1] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

Figure 6-1
Reduced Intensity Alternative Site Plan



Because the Reduced Intensity Alternative would include development of the same uses as the proposed project, all of the project objectives would be met. Objective 5 could arguably be better met under the Reduced Intensity Alternative, as the removal of four units would preserve more open space at the rear of the site.

Biological Resources

Although the Reduced Intensity Alternative would include the construction of fewer residential units, and, thus, smaller buildings, ground-disturbing activities would still occur on the project site. Therefore, the Alternative would have the same potential to impact special-status plant species, California red-legged frog, saltmarsh common yellowthroat, and other migratory bird and raptor species protected under the MBTA, and the same mitigation measures would be required. In addition, although the buffer between the development and wetlands would be increased, because the Reduced Intensity Alternative would still include the potential disturbance and possible fill of the on-site waters of the State, removal of potential riparian vegetation, and the removal of on-site trees, the associated mitigation measures would still be required.

Overall, impacts related to biological resources would be similar under the Reduced Intensity Alternative compared to the proposed project.

Greenhouse Gas Emissions

As discussed in further detail below, because VMT impacts associated with the Reduced Intensity Alternative would be less than significant, the Alternative would comply with BAAQMD Transportation criterion c. As a result, all mitigation measures related to GHG emissions would not be required. The Alternative would result in fewer impacts related to GHG emissions as compared to the proposed project, and the significant and unavoidable impacts that would occur under the proposed project would be eliminated.

Transportation

Under the Reduced Intensity Alternative, the commercial uses would generate similar daily trips as the proposed project and would screen out. With respect to the residential daily trips, according to the VMT Analysis prepared for the proposed project, the average daily single-family residential trip rate would be 7.44 trips per day per unit. Based on the total of 12 single-family attached housing units in Buildings B and C, the Alternative would result in approximately 89 trips a day (12 units x 7.44 average trip rate = 89.28 daily trips). According to the VMT Analysis, the three multi-family units in Building A would result in 18 average daily trips. Therefore, the Reduced Intensity Alternative would result in 108 total daily trips (89.28 + 18 Building A trips = 107.28 daily trips). As such, under the Reduced Intensity Alternative, the residential component of the project would also screen out under LCI's 110-trip threshold for small land use projects. However, because construction would still occur on-site, construction traffic and potential street closures could interfere with existing roadway operations. Therefore, Mitigation Measure 4.3-1 would still apply. In addition, because the Alternative would not include adjustments to the existing driveway, emergency access to the project site would not be considered adequate and Mitigation Measure 4.3-4 would still be required.

Overall, because the Reduced Intensity Alternative would involve lowered VMT rates, the Alternative would result in fewer impacts related to transportation as compared to the proposed project, and the significant and unavoidable impacts that would occur under the proposed project would be eliminated.

Initial Study

Because the Reduced Intensity Alternative would include the same disturbance area as the proposed project, impacts identified and fully mitigated in the Initial Study prepared for the proposed project would be similar under the Alternative. Accordingly, a detailed comparison of potential impacts associated with the environmental issue areas as a result of the Reduced Intensity Alternative and the proposed project is not included. Rather, the mitigation measures within the Initial Study required to reduce significant impacts related to ground disturbance, such as impacts related to cultural resources, geology and soils, hazards and hazardous materials, and tribal cultural resources, to less than significant, would still be required. Specific impacts in the Initial Study requiring mitigation are included in Table 6-1 at the end of this chapter.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The environmentally superior alternative is generally the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the Lead Agencies. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." In this case, the No Project (No Build) Alternative would be considered the environmentally superior alternative, because the project site is assumed to remain in its current condition under the alternative. Consequently, none of the impacts resulting from the proposed project would occur under the Alternative, as shown in Table 6-1 below.

The No Project (No Build) Alternative would not meet any of the project objectives. Because the 100 Percent Affordable Housing Alternative and Reduced Intensity Alternative would include development of the same uses as the proposed project, all of the project objectives would be met. It should be noted that Objective 5 could arguably be better met under the Reduced Intensity Alternative, as the removal of four units would preserve more open space at the rear of the project site.

As discussed throughout this chapter and shown in Table 6-1, both the 100 Percent Affordable Housing Alternative and the Reduced Intensity Alternative would result in fewer impacts than the proposed project related to GHG emissions and transportation, and would result in similar impacts as the proposed project related to biological resources. Under both alternatives, impacts related to GHG emissions and VMT, which were identified as significant and unavoidable for the proposed project, would not occur. However, because the Reduced Intensity Alternative would only include a portion of affordable units on-site, the 100 Percent Affordable Housing Alternative would more effectively contribute to the City's goals related to the provision of affordable housing.

Because the 100 Percent Affordable Housing Alternative would result in fewer significant impacts than the proposed project, would meet all project objectives, and would more effectively accomplish the City's goals related to providing affordable housing, the 100 Percent Affordable Housing Alternative would be considered the environmentally superior alternative.

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Impact		Proposed Project	No Project Alternative	100 Percent Affordable Housing Alternative	Reduced Intensity Alternative
4.1 Biological Resources					
4.1-1	Have a substantial adverse effect, either directly (e.g., threaten to eliminate a plant community) or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species.	Less Than Significant with Mitigation	None	Similar	Similar
4.1-2	Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through habitat modifications, on saltmarsh common yellowthroat, and other migratory birds and raptors protected under the MBTA.	Less Than Significant with Mitigation	None	Similar	Similar
4.1-3	Have a substantial adverse effect, either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through habitat modifications, on California red-legged frog.	Less Than Significant with Mitigation	None	Similar	Similar
4.1-4	Have a substantial adverse effect on any riparian habitat or other sensitive natural community, or State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Less Than Significant with Mitigation	None	Similar	Similar
4.1-6	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less Than Significant with Mitigation	None	Similar	Similar

(Continues on next page)

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Impact		Proposed Project	No Project Alternative	100 Percent Affordable Housing Alternative	Reduced Intensity Alternative
4.2 Greenhouse Gas Emissions					
4.2-1	**Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.**	**Significant and Unavoidable**	None	Fewer	Fewer
4.3 Transportation					
4.3-1	Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities.	Less Than Significant with Mitigation	None	Similar	Similar
4.3-3	**Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).**	**Significant and Unavoidable**	None	Fewer	Fewer
4.3-4	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) or result in inadequate emergency access.	Less Than Significant with Mitigation	None	Similar	Similar
Initial Study					
V-a. V-b. V-c.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5. Disturb any human remains, including those interred outside of dedicated cemeteries.	Less Than Significant with Mitigation	None	Similar	Similar

(Continues on next page)

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Impact	Proposed Project	No Project Alternative	100 Percent Affordable Housing Alternative	Reduced Intensity Alternative
VII-a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iii. Seismic-related ground failure, including liquefaction; or iv. Landslides. VII-c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less Than Significant with Mitigation	None	Similar	Similar
VII-d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Less Than Significant with Mitigation	None	Similar	Similar
VII-f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less Than Significant with Mitigation	None	Similar	Similar
IX-b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	Less Than Significant with Mitigation	None	Similar	Similar
IX-c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less Than Significant with Mitigation	None	Similar	Similar
IX-f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant with Mitigation	None	Similar	Similar

(Continues on next page)

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Impact	Proposed Project	No Project Alternative	100 Percent Affordable Housing Alternative	Reduced Intensity Alternative
X-a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. X-e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less Than Significant with Mitigation	None	Similar	Similar
XIII-b. Generation of excessive groundborne vibration or groundborne noise levels.	Less Than Significant with Mitigation	None	Similar	Similar
XVIII-a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). XVIII-b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant with Mitigation	None	Similar	Similar

Note: No Impact = "None;" Greater than Proposed Project = "Greater;" Less than Proposed Project = "Fewer;" and Similar to Proposed Project = "Similar"

* Significant and Unavoidable impact(s) determined for the proposed project would still be expected to occur under the Alternative

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7. REFERENCES

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8. EIR Authors and Persons Consulted

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Appendix A

DATE: October 4, 2024

TO: Responsible and Trustee Agencies
Interested Parties and Organizations

FROM: Brianne Harkousha, Senior Planner
City of Pacifica

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED 570 CRESPI DRIVE PROJECT

REVIEW PERIOD: October 4, 2024, to November 4, 2024

The City of Pacifica ("City") is the lead agency for the preparation of an Environmental Impact Report (EIR) for the proposed 570 Crespi Drive Project (proposed project). The City has directed the preparation of this EIR in compliance with the California Environmental Quality Act (CEQA). An Initial Study, attached hereto, has been prepared pursuant to CEQA Guidelines Section 15125, which identifies the anticipated environmental effects of the proposed project. The Initial Study satisfies the City's obligation under CEQA Guidelines Section 15125 to identify the probable environmental effects of the proposed project. The scope of the EIR has been proposed by the City based upon the analysis within the Initial Study.

Once a decision is made to prepare an EIR, the lead agency must prepare a Notice of Preparation (NOP) to inform all responsible and trustee agencies that an EIR will be prepared (CEQA Guidelines Section 15082). The purpose of the NOP is to provide agencies with sufficient information describing both the proposed project and the potential environmental effects to enable the agencies to make a meaningful response as to the scope and content of the information to be included in the EIR. The City is also soliciting comments on the scope of the EIR from the general public.

PROJECT LOCATION AND SETTING

The 1.68-acre project site is located just south of Crespi Drive in the City of Pacifica, California. The site consists of the entirety of the 0.98-acre lot identified by Assessor's Parcel Number (APN) 022-162-310, located at 570 Crespi Drive ("Parcel 1"), and the southeastern 0.70-acre portion of APN 022-162-420, located at 540 Crespi Drive ("Parcel 2") (see Figure 1). Pursuant to the City's General Plan, Parcel 1 is designated Mixed Use Center. Parcel 2 is designated Public and Semi-Public (approximately northern half) and Park (approximately southern half). Both parcels are zoned Controlled Manufacturing District (M-1).

The majority of the site is undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. It is noted that the western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area. The southeast portion of Parcel 2 is currently developed with a driveway and roadway to provide access to the parking lot associated with the Pacifica Community Center and Pacifica Skate Park.

Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the west, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. The Cabrillo Elementary School is located approximately 600 feet

east of the project site and SR 1 is approximately 0.75-mile to the west of the site. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

PROJECT DESCRIPTION

The proposed project would include the purchase from the City of Pacifica of Parcel 2 and a Lot Merger and/or Lot Line Adjustment (LLA) to combine the 0.70-acre portion of Parcel 2 and the 0.98-acre Parcel 1. The new 1.68-acre parcel would be developed with one two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C) (see Figure 2). The proposed project would include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Five on-site trees would be removed during construction of the proposed project. In addition, the project would involve off-site improvements, including removal of two trees and the construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Tentative Subdivision Map, Lot Merger and/or LLA, Parking Exception, Sign Permit, and tree removal permit. Additional details regarding the requested approvals, proposed buildings, access and circulation, landscaping, utilities infrastructure, and off-site improvements are discussed below.

General Plan Amendment / Rezoning / Zoning Text Amendment / Development Agreement / Site Development Permit / Use Permit / Parking Exception / Sign Permit / Tree Removal Permit

A General Plan Amendment would be required to redesignate Parcel 2 from the two current General Plan land use designations (Public and Semi-Public, and Park) to Mixed Use Center, consistent with the existing land use designation of Parcel 1.

As part of the proposed project, the project site would be Rezoned from M-1 to the Community Commercial (C-2) zoning district. Per Municipal Code Section 9-4.1101(b)(8), residential dwelling units are conditionally allowable when located above the ground floor in the same building as a commercial use. As a result, approval of a Use Permit would be required in order to develop the three proposed units on the second story of Building A. A Site Development Permit and a Use Permit would be required to allow a clustered housing development pursuant to Municipal Code Section 9-4.2403. A Parking Exception would be required to allow an exception to the off-street parking requirements pursuant to Pacifica Municipal Code Section 9-4.2824(a). In addition, a Sign Permit would be required to include a Master Sign Program for the future commercial tenants of the project to be consistent with Pacifica Municipal Code Section 9-42907(b). Finally, because the proposed project would include removal of at least eight on-site trees, a tree removal permit would be required prior to removing any protected or City trees, as defined by the City's current tree protection ordinance.

The proposed Zoning Text Amendment would allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. Approval of the proposed Zoning Text Amendment would allow for the development of Buildings B and C in the C-2 zoning district. The proposed Zoning Text Amendment would allow residential-only buildings to be constructed on sites that also contain a commercial building in areas throughout the City zoned C-2, subject to approval of a Use Permit. Approval of Use Permits is subject to the requirements of CEQA. Consequently, development of new residential uses on the ground level and in buildings that do not contain commercial uses on other parcels zoned C-2 would require site-specific environmental review and would not be allowed by-right by the proposed Zoning Text Amendment.

The proposed project would also include approval of a Development Agreement to require certain public benefits and to provide certain developer benefits, and to allow the construction of a driveway and 17 parking spaces at the adjacent Community Center, among other public benefits.

Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment

The proposed project would include approval of a Tentative Subdivision Map and a Lot Merger and/or LLA to combine Parcel 1 (APN 022-162-310), located at 570 Crespi Drive, and the southeastern 0.70-

acre portion of Parcel 2 (APN 022-162-420), located at 540 Crespi Drive. The Tentative Subdivision Map would also include the creation of one commercial structure and 19 residential condominiums on the site.

Proposed Buildings

Building A would consist of 3,165 sf of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. Both Buildings B and C would be three stories and would be constructed on the northernmost half of the site, while the southernmost half of the site would remain largely undisturbed, except for a small emergency stormwater overflow drain inlet and pipe. Three residential units would be Below Market Rate ownership units affordable to buyers with low or moderate incomes. Construction would occur over an approximately two-year period. Grading would involve import of approximately 2,400 cubic yards of soil.

As discussed above, Building A would be developed as a mixed-use building with the ground floor consisting of 3,165-sf of commercial space and three residential units on the second floor. The westernmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies. The center unit in Building A would be approximately 925 sf with one bedroom, one bathroom, and a single balcony. The easternmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies.

Building B would include seven town homes, and Building C would include nine townhomes. All units would include a tandem garage on the first floor with a first-floor entry, with the residential space included on the second and third floors.

The first-floor entryway, second floor, and third floor of each unit would total approximately 1,521 sf, with the exception that the southernmost unit in Building B would be 2,212 sf, and the southernmost unit in Building C would be 2,227 sf. A roof deck would be provided above each unit in Buildings B and C.

Parking, Access, and Circulation

Primary access to the project site would be provided from Crespi Drive. The driveway entrance would be provided along the eastern side of Building A and loop around the southern portion of Building A, before exiting the site to the west. A two-way drive aisle would connect to the proposed loop to allow residents access to Building B and C. The first floor of Building B and Building C would include private tandem garages for each proposed unit. Additionally, a total of 15 uncovered parking spaces would be provided on the project site, five of which would be located on the east side of Building A, seven located directly south of Building A, two south of Building B, and one south of Building C. Of the 47 total parking spaces provided on-site, three would provide electric vehicle charging.

The proposed project would also include improvements to the northern portion of the Pacifica Community Center parcel. The improvements would include construction of a new east to west driveway with 17 uncovered parking spaces and a drop-off area intended for use by the Pacifica Community Center. The new driveway would connect to existing driveways located to the west and to the east of the Community Center.

Landscaping

The proposed project would include landscaping features throughout the development area, the off-site improvement area, and along the Crespi Drive frontage. Proposed plant types include, but are not limited to, crape myrtle, desert willow, sea lavender, dwarf mat rush, and Cleveland sage. All landscaping improvements would be consistent with the City's landscape design requirements, which require a minimum of 10 percent of the area in commercial zoning districts to be landscaped, and would include at least two inches of mulch.

Utilities

Sewer service for the project would be provided by the City. The proposed project would include connection to existing sanitary sewer infrastructure in Crespi Drive. Each building would be served by an eight-inch sanitary sewer line to connect to the proposed residential units. In addition, each building would be constructed with a new sanitary sewer cleanout connected to the eight-inch sewer lines. The eight-inch lines would eventually connect to an existing sanitary sewer line within Crespi Drive to be routed to the City's wastewater treatment plant.

Water service would be provided by the North Coast County Water District (NCCWD) through connection to the existing water main located at Crespi Drive. A four-inch water line would be routed from all three buildings to provide fire service, while a three-inch water line would be routed from the proposed buildings to provide domestic water services.

Electricity services would be provided by Pacific Gas & Electric (PG&E). A new vault would be constructed by PG&E in the northern portion of the project site, near Building A, to provide electricity to the proposed structures. In addition, the project would connect to existing telecommunications infrastructure in the project area.

All runoff from impervious areas within the project site, including all hardscape, parking areas, and driveways would be collected by new four-, six-, eight- and 10-inch storm drainpipes within the proposed driveway and parking area. Runoff flowing through the storm drains would empty into proposed bioswales on the western and eastern boundaries of the site or be directed to a bioretention area in the southeast corner of the project site. Treated stormwater would either be discharged into the vacant land to the south of the development area or into the City's stormwater system through connection of an existing six-inch storm drain west of the site. An 18-inch emergency overflow riser would be installed in the southwestern corner of the project site, and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary. The proposed driveway and parking area north of the existing Community Center would be a self-treating area.

Off-Site Improvements

The proposed project would include various off-site improvements associated with the access driveway and site circulation. As discussed above, the proposed project would include construction of a new west to east driveway off Crespi Drive along the northern boundary of the Pacifica Community Center. Additional off-site improvements would include construction of 17 parking spaces to the west of the project site, a drop-off area, a new trash containment area, removal of two trees, and landscape improvements.

Discretionary Actions

The proposed project would require City approval of the following:

- General Plan Amendment to redesignate Parcel 2 from Public and Semi-Public and Park land use designations to Mixed Use Center land use designation;
- Rezoning of the site from M-1 to C-2;
- Zoning Text Amendment to allow residential uses in buildings that do not contain commercial uses in C-2 zoning district;
- Development Agreement to require certain public benefits and to provide certain developer benefits;
- Use Permit to allow residential uses within the C-2 zone;
- Site Development Permit and Use Permit to allow a clustered residential housing development;
- Parking Exception to allow an exception to off-street parking requirements;
- Sign Permit to allow a master sign program for commercial tenants;
- Tentative Subdivision Map to create new residential and commercial condominiums;
- Lot Merger and/or LLA to merge APN 022-162-310 and a portion of APN 022-162-420; and
- Tree Removal Permit to authorize tree removal.

PROBABLE ENVIRONMENTAL EFFECTS AND SCOPE OF THE EIR

Based on the analysis conducted in the Initial Study prepared for the proposed project (see Attachment), the EIR will address impacts pertaining to the topics identified below:

- Biological Resources;
- Greenhouse Gas Emissions; and
- Transportation.

Both of the foregoing chapters of the EIR will include identification of the thresholds of significance, identification of project-level and cumulative impacts, and the development of mitigation measures and monitoring strategies, as required. The EIR will also include chapters that discuss Statutorily Required Sections and Alternatives to the proposed project. The EIR will incorporate by reference the City of Pacifica General Plan and General Plan EIR.

The following paragraphs summarize the anticipated analyses that will be included in the EIR.

Biological Resources: The Biological Resources chapter will include potential effects to plant communities, wildlife, wetlands, and heritage trees, including adverse effects on rare, endangered, candidate, sensitive, and special-status species from the activities of the proposed project. The analysis in the chapter will be based on an Updated Biological Resources Analysis prepared by the project applicant specifically for the proposed project, which will be subject to a peer review by a City-hired biologist. Mitigation measures for all identified impacts will be developed consistent with applicable laws and regulations.

Greenhouse Gas Emissions: The Greenhouse Gas Emissions chapter will include analysis for the proposed project performed using the California Emissions Estimator Model (CalEEMod) software program according to the Bay Area Air Quality Managements District's (BAAQMD's) CEQA Guidelines. The chapter will include a discussion of emissions in comparison to the BAAQMD's current GHG thresholds. Mitigation measures will be identified, as appropriate, using BAAQMD to identify feasible mitigations for GHG emissions.

Transportation: The Transportation chapter will be based on project-specific trip generation and vehicle miles traveled (VMT) analyses. Impact determination for CEQA purposes will be based on VMT, consistent with CEQA Guidelines Section 15064.3, which became effective statewide on July 1, 2020. The VMT analysis will be prepared consistent with the City's current guidance. The proposed project's impacts to alternative modes such as pedestrian, bicycle, and transit facilities will be assessed based on the applicable significance criteria. The EIR chapter will also include an analysis of the proposed project's potential impacts related to conflicting with applicable programs, policies, and ordinances addressing the circulation system, vehicle safety hazards, and emergency access. Feasible and appropriate mitigation measures to avoid or reduce adverse impacts will be identified, as needed.

Statutorily Required Sections: Pursuant to CEQA Guidelines, the Statutorily Required Sections chapter of the EIR will address the potential for growth-inducing impacts of the proposed project, focusing on whether removal of any impediments to growth would occur with the project. The chapter will summarize significant and unavoidable, significant irreversible, and growth-inducing impacts, to the extent that such impacts are identified in the EIR analysis. The chapter will also summarize the cumulative impact analyses, which will be provided in each technical chapter of the EIR.

Alternatives Analysis: In accordance with Section 15126.6(a) of the CEQA Guidelines, the Alternatives Analysis chapter will evaluate, at a minimum, three alternatives, including the No Project Alternative. The Alternatives chapter will describe the alternatives and identify the environmentally superior alternative. The alternatives will be analyzed at a level of detail less than that of the proposed project, which is permissible under CEQA; however, the analyses will include sufficient detail to allow a meaningful comparison of the impacts. The Alternatives Analysis chapter will include a qualitative-level analysis of all impacts for the alternatives, and will also include a section of alternatives considered but dismissed.

SUBMITTING COMMENTS

To ensure that the full range of issues related to the proposed project are addressed and all significant issues are identified, written comments are invited from all interested parties on the scope and content of the EIR. Written comments should be directed to the name and address below:

Email (preferred):

planningdivision@pacifica.gov

Regular Mail:

City of Pacifica
Attn: Brianne Harkousha, Community Development Department
170 Santa Maria Ave
Pacifica, CA 94044-2506

Written comments are due to the City of Pacifica at the location addressed above by 5:00 p.m. on November 4, 2024.

SCOPING MEETING

In addition to the opportunity to submit written comments, a public NOP scoping meeting will be held to inform interested parties about the proposed project, and to provide agencies and the public an opportunity to provide comments on the scope and content of the EIR. The scoping meeting will be conducted as a teleconference meeting (no physical location).

EIR Scoping Meeting on the 570 Crespi Drive Project

Tuesday | October 22, 2024 | 6:00 p.m.

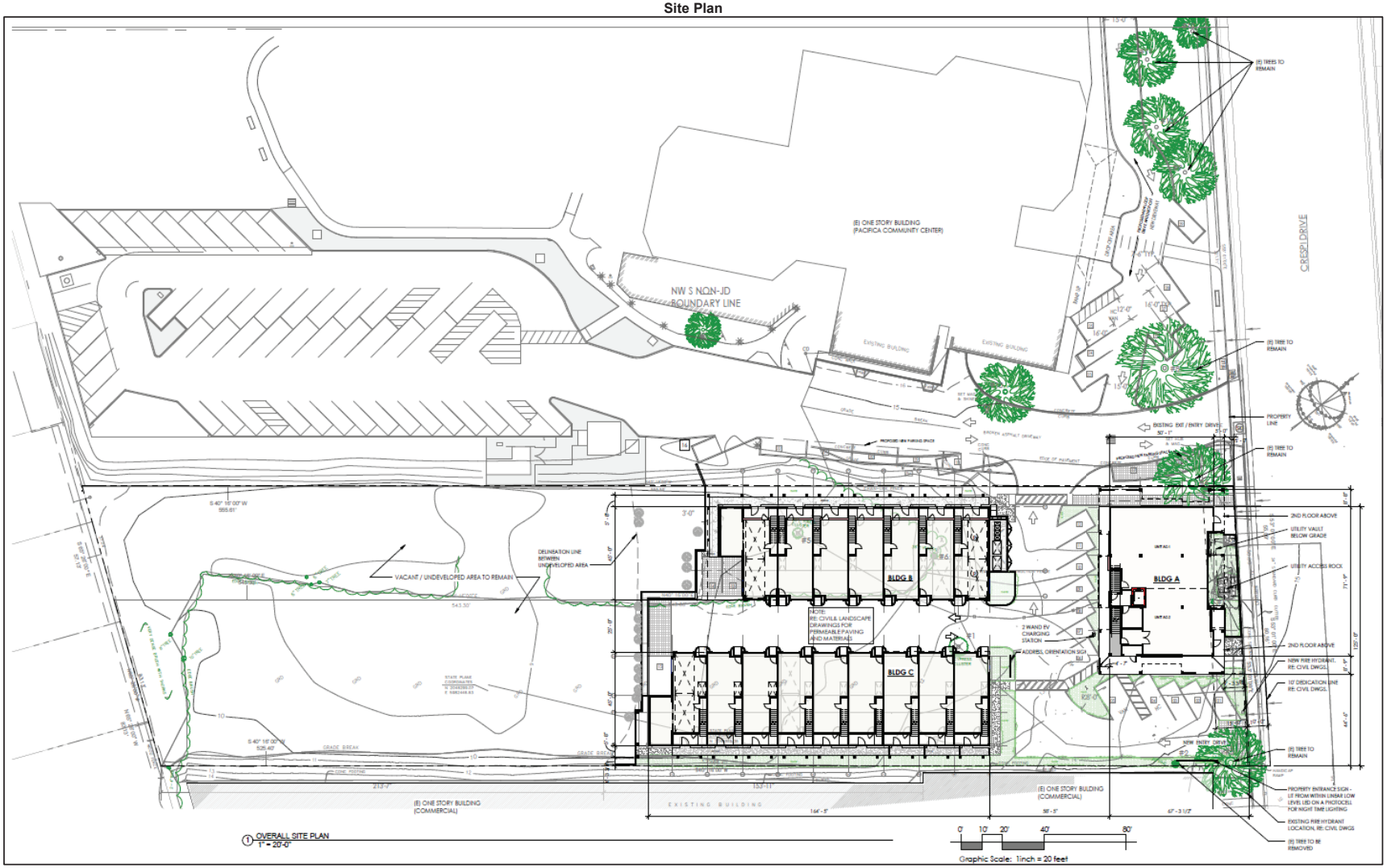
Via Zoom teleconference (online only – no physical location):
https://us02web.zoom.us/j/84813763301?pwd=aabU0h1xXb4hSvDvfD1bEozouDUEFd.1

Phone: (669) 900-6833 | Webinar ID: 848 1376 3301 | Passcode: 821883

For project information, please contact the Planning Division at planningdivision@pacifica.gov

Figure 1
Project Site Boundaries

Figure 2
Site Plan



Attachment

Initial Study

CITY OF PACIFICA
PLANNING DEPARTMENT

570 Crespi Drive Project

Initial Study

October 2024

Prepared By

RANEY PLANNING & MANAGEMENT, INC. | 20 years
1501 Sports Drive, Suite A, • Sacramento • CA • 95834
Office 916.372.6100 • Fax 916.419.6108

TABLE OF CONTENTS

APPENDICES:

INITIAL STUDY
SEPTEMBER 2024

A. BACKGROUND

1.	Project Title:	570 Crespi Drive Project
2.	Lead Agency Name and Address:	City of Pacifica Planning Department 540 Crespi Drive Pacifica, CA 94044
3.	Contact Person and Phone Number:	Brianne Harkousha Senior Planner (650) 738-7341
4.	Project Location:	540 and 570 Crespi Drive Pacifica, CA 94044 APNs 022-162-130 and 022-162-420
5.	Project Sponsor's Name and Address:	Brendan Murphy P.O. Box 301 San Mateo, CA 94401 (650) 401-3642
6.	Existing General Plan Designation:	Mixed Use Center, Public and Semi Public, and Park
7.	Proposed General Plan Designation:	Mixed Use Center
8.	Existing Zoning Designation:	Controlled Manufacturing District (M-1)
9.	Proposed Zoning Designation:	Community Commercial District (C-2)
10.	Potential Approvals from Other Public Agencies:	Regional Water Quality Control Board California Department of Fish and Wildlife U.S. Army Corps of Engineers Bay Area Air Quality Management District

11. Surrounding Land Uses and Setting:

The 570 Crespi Drive Project (proposed project) would include development on a 1.68-acre project site comprised of two parcels in the City of Pacifica, California. Parcel 1 is located at 570 Crespi Drive (Assessor's Parcel Number [APN] 022-162-310) and is designated Mixed Use Center in the City's General Plan. Parcel 2 is located at 540 Crespi Drive (APN 022-162-420). The northern portion of Parcel 2 is designated Public and Semi Public, while

the southern half is designated Park. Both sites are zoned Controlled Manufacturing District (M-1). Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

12. Project Description Summary:

The proposed project would include a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). The project would also include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Building A would consist of 3,165-square feet (sf) of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. All three buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. Three of the units would be ownership Below Market Rate (BMR) units pursuant to the City's Inclusionary Ordinance. In addition, the project would involve off-site improvements, including removal of two trees and construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center located immediately to the west at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment (LLA), and Tree Removal Permit. The Development Agreement, among other things, would include the following developer requirements: (1) the creation of three BMR units; (2) an affordable housing contribution to City; (3) the construction of improvements at 540 Crespi Drive as noted above; (4) a driveway lease with City to allow the project to use the City's driveway; and (5) wetland interpretative signage.

13. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.19:

Native American tribes in the project region have not requested notification of new development projects from the City as of the date of preparation of this Initial Study (IS). Thus, pursuant to Assembly Bill (AB) 52 (Public Resources Code [PRC] Section 21080.3.1), project notification letters were not distributed and requests for consultation were not received. Nonetheless, information request letters were sent in June 2020 to the Amah Mutsun Tribal Band of Mission San Juan Batista and the Ohlone Indian Tribe. In addition, because the proposed project includes a General Plan Amendment, Native American tribes were consulted on November 18, 2021, pursuant to Senate Bill (SB) 18. Responses from the tribes have not been received.

B. SOURCES

The following documents are referenced information sources used for the purposes of this IS:

1. Barry Biermann, Deputy Fire Chief, North County Fire Authority. Personal communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. June 4, 2020.
2. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
3. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update.* January 20, 2017.
4. California Building Standards Commission. *California Green Building Standards Code*. 2019.
5. California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/dlrp/ciff/. Accessed June 2021.
6. California Department of Conservation. *Tsunami Inundation Map for Emergency Planning, Montara Mountain Quadrangle.* June 15, 2009.
7. California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark*. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed June 2021.
8. California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.
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10. California Department of Transportation. *Traffic Census Program.* Available at: https://dot.ca.gov/programs/traffic-operations/census. Accessed December 2022.
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18. City/County Association of Governments of San Mateo County, California. *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport.* July 2012.
19. City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *Construction Best Management Practices.* Available at: http://www.cityofpacifica.org/depts/planning/stormwater_compliance/default.asp. Accessed January 4, 2019.

20. City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *C.3 Stormwater Technical Guidance.* June 2016.
21. City/County Association of Governments. *San Mateo County Congestion Management Program*. April 9, 2020.
22. ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.
23. GeoForensics, Inc. *Crespi Drive Property, 570 Crespi Drive, Pacifica, California, Response to Geotechnical Peer Review*. April 30, 2020.
24. GeoForensics, Inc. *Geotechnical Investigation for Proposed New Townhouse Complex and Commercial Building.* January 5, 2016.
25. Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.
26. Heather Olsen, Superintendent, Pacifica School District. Personal Communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. May 27, 2020.
27. Native American Heritage Commission. *570 Crespi Drive Project, San Mateo County.* February 28, 2020.
28. North Coast County Water District. *2020 Urban Water Management Plan.* June 2021.
29. North Coast County Water District. *20-Year Long-Term Water Master Plan.* February 2016.
30. Northwest Information Center. *Re: Record search results for the proposed project located at 570 Crespi Drive, Pacifica, San Mateo County, California.* March 10, 2020.
31. Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*. February 2015.
32. Pacifica School District. *Level I Developer Fee Study for Pacifica School District.* June 14, 2018.
33. Regional Water Quality Control Board San Francisco Bay Region. *City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County.* Available at: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2017/April/7_ssr.pdf. April 12, 2017.
34. RKH Civil and Transportation, Inc. *Traffic Impact Analysis, 570 Crespi Drive, Pacifica, California.* November 8, 2021.
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36. Saxelby Acoustics LLC. *Environmental Noise Assessment, 570 Crespi Drive.* June 9, 2021.
37. State of California. Division of Mines and Geology. *Generalized Mineral Land Classification Map of the South San Francisco Bay Production—Consumption Region*. Published 1996.
38. U.S. Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed June 2021.
39. U.S. Environmental Protection Agency. *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*. December 2016.

C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant" as indicated by the checklist on the following pages.

☐ **Aesthetics**	☐ **Agriculture and Forest Resources**	☐ **Air Quality**
☒ **Biological Resources**	☒ **Cultural Resources**	☐ **Energy**
☒ **Geology and Soils**	☒ **Greenhouse Gas Emissions**	☒ **Hazards and Hazardous Materials**
☒ **Hydrology and Water Quality**	☐ **Land Use and Planning**	☐ **Mineral Resources**
☒ **Noise**	☐ **Population and Housing**	☐ **Public Services**
☐ **Recreation**	☒ **Transportation**	☒ **Tribal Cultural Resources**
☐ **Utilities and Service Systems**	☐ **Wildfire**	☐ **Mandatory Findings of Significance**

D. DETERMINATION

On the basis of this initial study:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Brianne Harkousha	10/4/2024
Signature	Date
Brianne Harkousha	City of Pacifica
Printed Name	For

E. BACKGROUND AND INTRODUCTION

This IS identifies and analyzes the potential environmental impacts of the 570 Crespi Drive project. The information and analysis presented in this document are organized in accordance with the order of the CEQA checklist in Appendix G of the CEQA Guidelines. All of the technical reports and modeling results used for the purposes of this analysis are available upon request at the City of Pacifica Planning Department.

Where the analysis provided in this document identifies potentially significant environmental effects of the project that can be mitigated to a less-than-significant level, mitigation measures are prescribed. Where the analysis provided in this document identifies potentially significant environmental effects of the project that require additional analysis, further evaluation of such effects will be provided in the Environmental Impact Report (EIR) to be prepared for the project.

On December 8, 2021, the City released an Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed project. The public review period was from December 8, 2021, through January 10, 2022. Public hearings for consideration of the project or IS/MND were held on March 7, 2022 by the City Planning Commission and on November 14, 2022, by the City Council. Based on public comments and this revised IS, the City determined an EIR was required.

On January 5, 2022, the City of Pacifica released a Draft General Plan Update and associated Draft EIR, and on July 11, 2022, the Draft General Plan Update and associated Draft EIR were adopted and certified by the City. Therefore, the analysis contained within this IS relies on the guidelines and information contained therein.

F. PROJECT DESCRIPTION

The following provides a description of the project site location and setting, as well as the proposed project components and the discretionary actions required for the project.

Project Location and Setting

The 1.68-acre project site is located just south of Crespi Drive in the City of Pacifica, California (see Figure 1 and Figure 2). The site consists of the entirety of the 0.98-acre lot identified by APN 022-162-310, located at 570 Crespi Drive (“Parcel 1”), and the southeastern 0.70-acre portion of APN 022-162-420, located at 540 Crespi Drive (“Parcel 2”). Parcel 1 is designated Mixed Use Center (MUC) in the City’s General Plan , and Parcel 2 is designated Public and Semi Public (approximately northern half) and Park (approximately southern half). Both parcels are zoned Manufacturing District (M-1).

The site is currently undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. It should be noted that the western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area.

Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the west, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. The Cabrillo Elementary School is located approximately 600 feet east of the project site and SR 1 is approximately 0.75-mile to the west of the site. In addition, Ocean View Senior Apartments is located to the north of the site, across Crespi Drive.

Figure 1
Regional Project Location

Figure 2
Project Site Boundaries

Project Components

The proposed project would include the purchase from the City of Pacifica of a 0.70-acre portion of Parcel 2 and a Lot Merger and/or LLA to combine the 0.70-acre portion of Parcel 2 and Parcel 1. The new 1.68-acre parcel would be developed with one two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C) (see Figure 3). The project would include a condominium subdivision to create one commercial condominium and 19 residential condominiums. In addition, the project would involve off-site improvements, including the removal of two trees and construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Parking Exception, Sign Permit, Tentative Subdivision Map, Lot Merger and/or LLA, and Tree Removal Permit. Additional details regarding the requested approvals, proposed buildings, access and circulation, landscaping, utilities infrastructure, and off-site improvements are discussed below.

General Plan Amendment / Rezoning / Zoning Text Amendment / Development Agreement / Site Development Permit / Use Permit / Parking Exception / Sign Permit

A General Plan Amendment would be required to redesignate the 0.70-acre portion of Parcel 2 from the two current General Plan land use designations (Public and Semi-Public, and Park) to Mixed Use Center, consistent with the existing land use designation of Parcel 1.

As part of the proposed project, the project site would be Rezoned from M-1 to the Community Commercial (C-2) zoning district. Per Municipal Code Section 9-4.1101(b)(8), residential dwelling units are conditionally allowable when located above the ground floor in the same building as a commercial use. As a result, approval of a Use Permit would be required in order to develop the three proposed units on the second story of Building A. A Site Development Permit and a Use Permit would be required to allow a clustered housing development pursuant to PMC Section 9-4.2403. A Parking Exception would be required to allow an exception to the off-street parking requirements pursuant to Pacifica Municipal Code Section 9-4.2824(a). Additionally, a Sign Permit would be required to include a master sign program for the future commercial tenants of the project to be consistent with Pacifica Municipal Code Section 9-42907(b).

In addition, a Zoning Text Amendment is proposed in order to allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. Approval of the proposed Zoning Text Amendment would allow for the development of Buildings B and C in the C-2 zoning district. The proposed Zoning Text Amendment would allow residential-only buildings to be constructed on sites that also contain a commercial building in areas throughout the City zoned C-2, subject to approval of a Use Permit. Approval of Use Permits is subject to the requirements of CEQA. Consequently, development of new residential uses on the ground level and in buildings that do not contain commercial uses on other parcels zoned C-2 would require site-specific environmental review and would not be allowed by-right by the proposed Zoning Text Amendment.

The project would also include approval of a Development Agreement which would require the proposed project to provide affordable units, and construct a driveway and 17 parking spaces at the adjacent Community Center.

Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment

The proposed project would include approval of a Tentative Subdivision Map and a Lot Merger and/or LLA to combine Parcel 1 and the southeastern 0.70-acre portion of Parcel 2. The Tentative Subdivision Map would also include the creation of one commercial structure and 19 residential condominiums on the site. The Tentative Subdivision Map is provided as Figure 4.

Proposed Buildings

Building A would consist of 3,165 sf of commercial space on the ground floor and three residential units on the second floor. Buildings B and C would be three stories each and would contain seven and nine townhomes, respectively, for a project-wide total of 19 units. The buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. Three residential units would be Below Market Rate ownership units. Refer to Figure 5, Figure 6, and Figure 7 for the first-, second-, and third-story floor plans for all proposed buildings. Construction would occur over an approximately two-year period. Grading would involve import of approximately 2,400 cubic yards of soil.

As discussed above, Building A would be developed as a mixed-use building with the ground floor consisting of 3,165-sf of commercial space and three residential units on the second floor. The westernmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies. The center unit in Building A would be approximately 925 sf with one bedroom, one bathroom, and a single balcony. The easternmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies.

Building B would include seven town homes, and Building C would include nine townhomes. All units would include a tandem garage on the first floor with a first-floor entry, with the residential space included on the second and third floors.

The first-floor entryway, second floor, and third floor of each unit would total approximately 1,521 sf, with the exception that the southernmost unit in Building B would be 2,212 sf, and the southernmost unit in Building C would be 2,227 sf. A roof deck would be provided above each unit in Buildings B and C.

Parking, Access, and Circulation

Primary access to the project site would be provided from Crespi Drive. The driveway entrance would be provided along the eastern side of Building A and loop around the southern portion of Building A, before exiting the site to the west (refer to Figure 3). A two-way drive aisle would connect to the proposed loop to allow residents access to Building B and C. The first floor of Building B and Building C would include private tandem garages for each proposed unit. Additionally, a total of 15 uncovered parking spaces would be provided on the project site, five of which would be located on the east side of Building A, seven located directly south of Building A, two south of Building B, and one south of Building C. Of the 47 total parking spaces provided on-site, three would provide electric vehicle charging. A Parking Exception would be required as an exception to the off-street parking requirement established by the City's Municipal Code in Section 9-4.2818(a)(1) and Section 9-4.5105(a).

The proposed project would also include improvements to the northern portion of the Pacifica Community Center parcel. The improvements would include construction of a new east to west driveway with 17 uncovered parking spaces and a drop-off area intended for use by the Pacifica Community Center. The new driveway would connect to existing driveways located to the west and to the east of the Community Center.

Figure 3
Site Plan

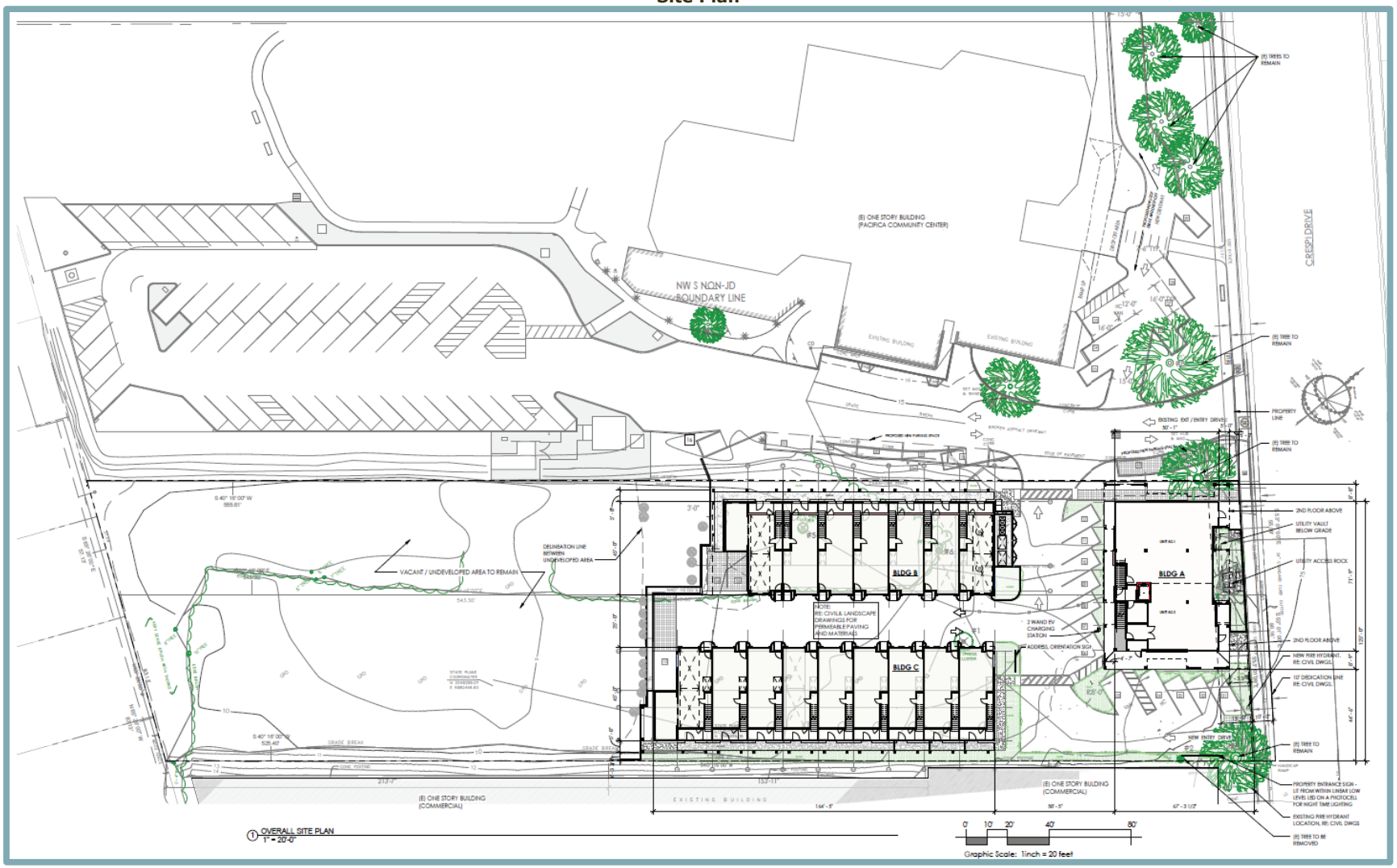


Figure 4
Tentative Map

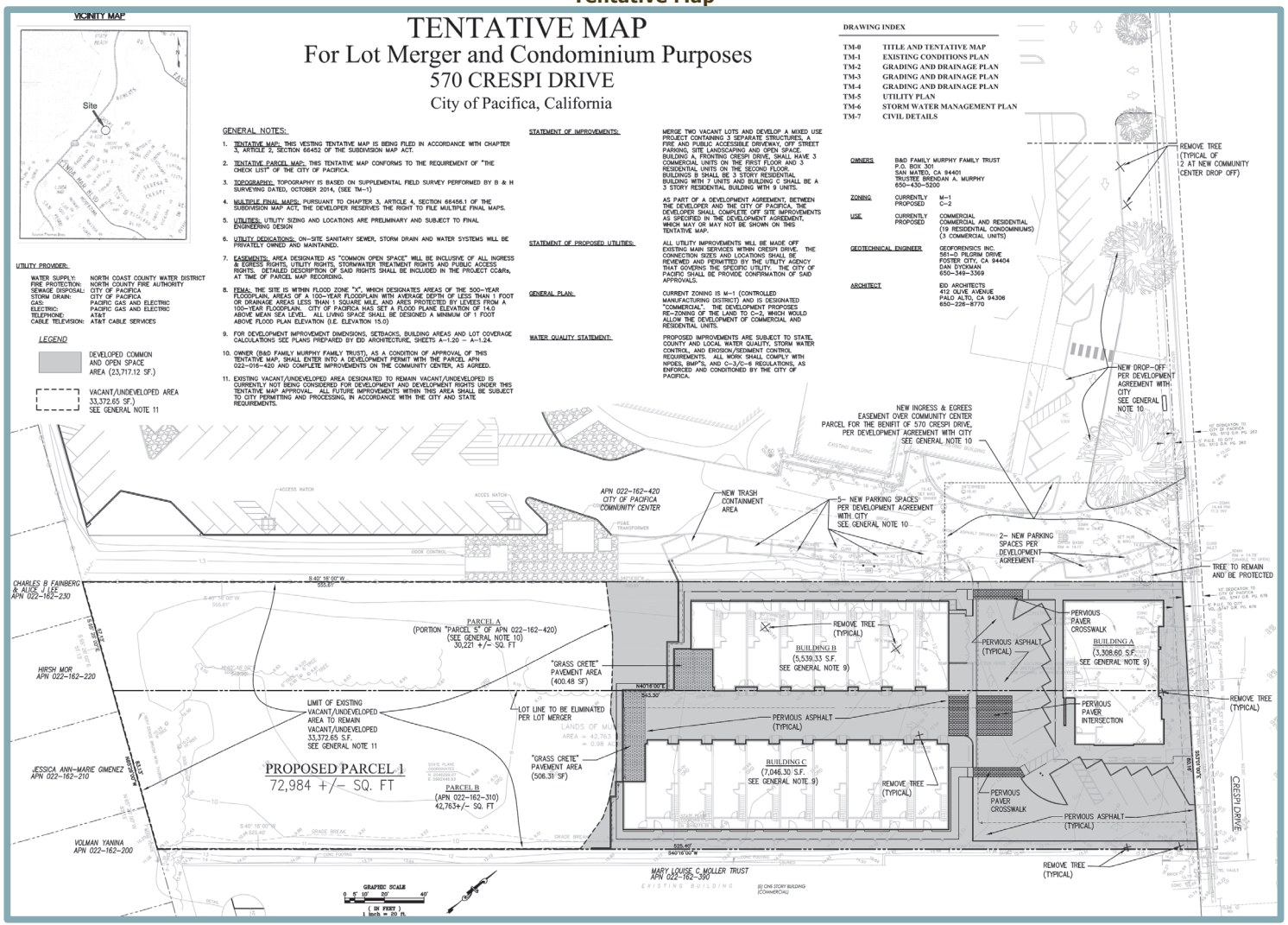


Figure 5
Floor Plan – Level 1

Figure 6
Floor Plan – Level 2

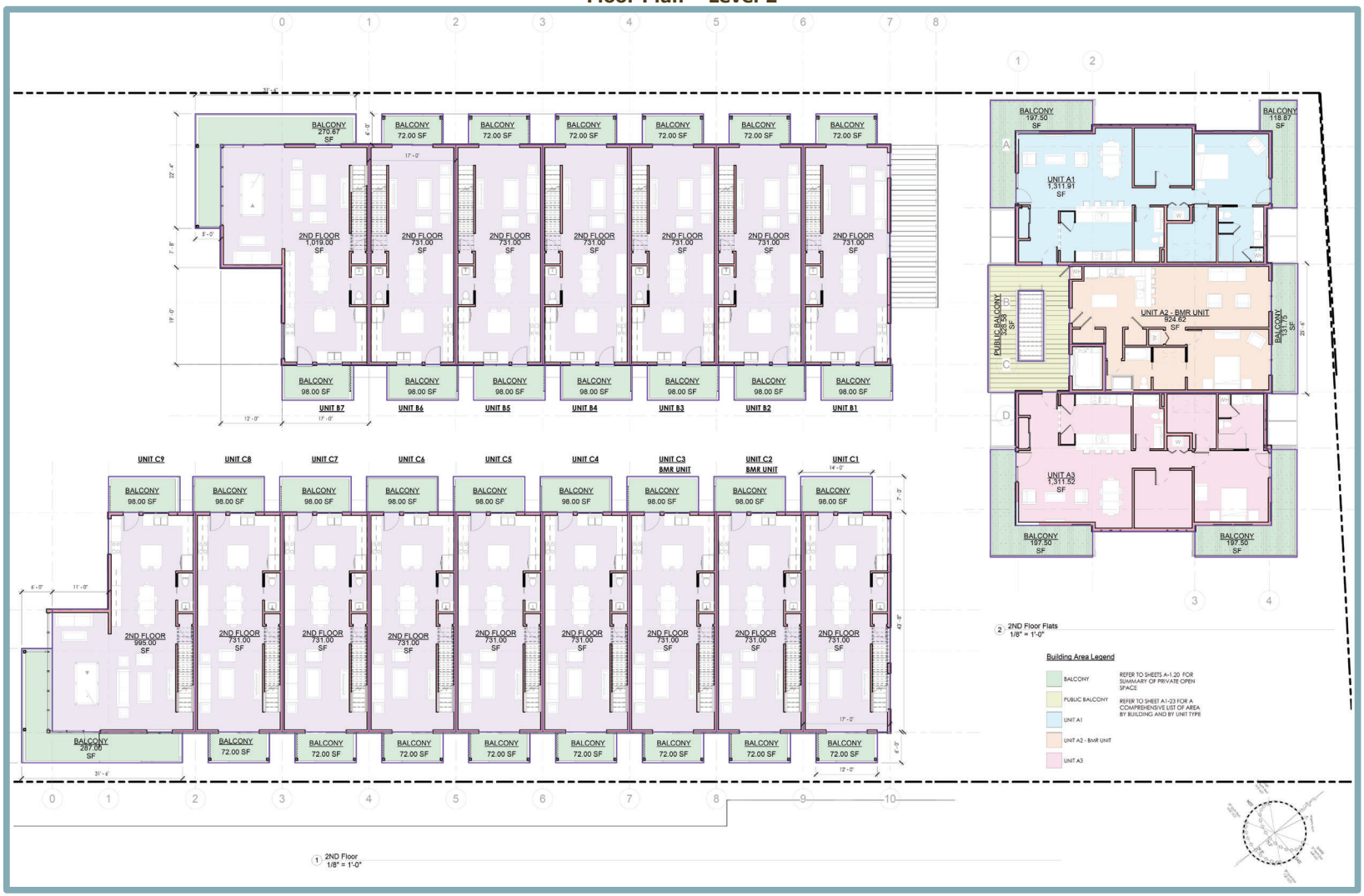
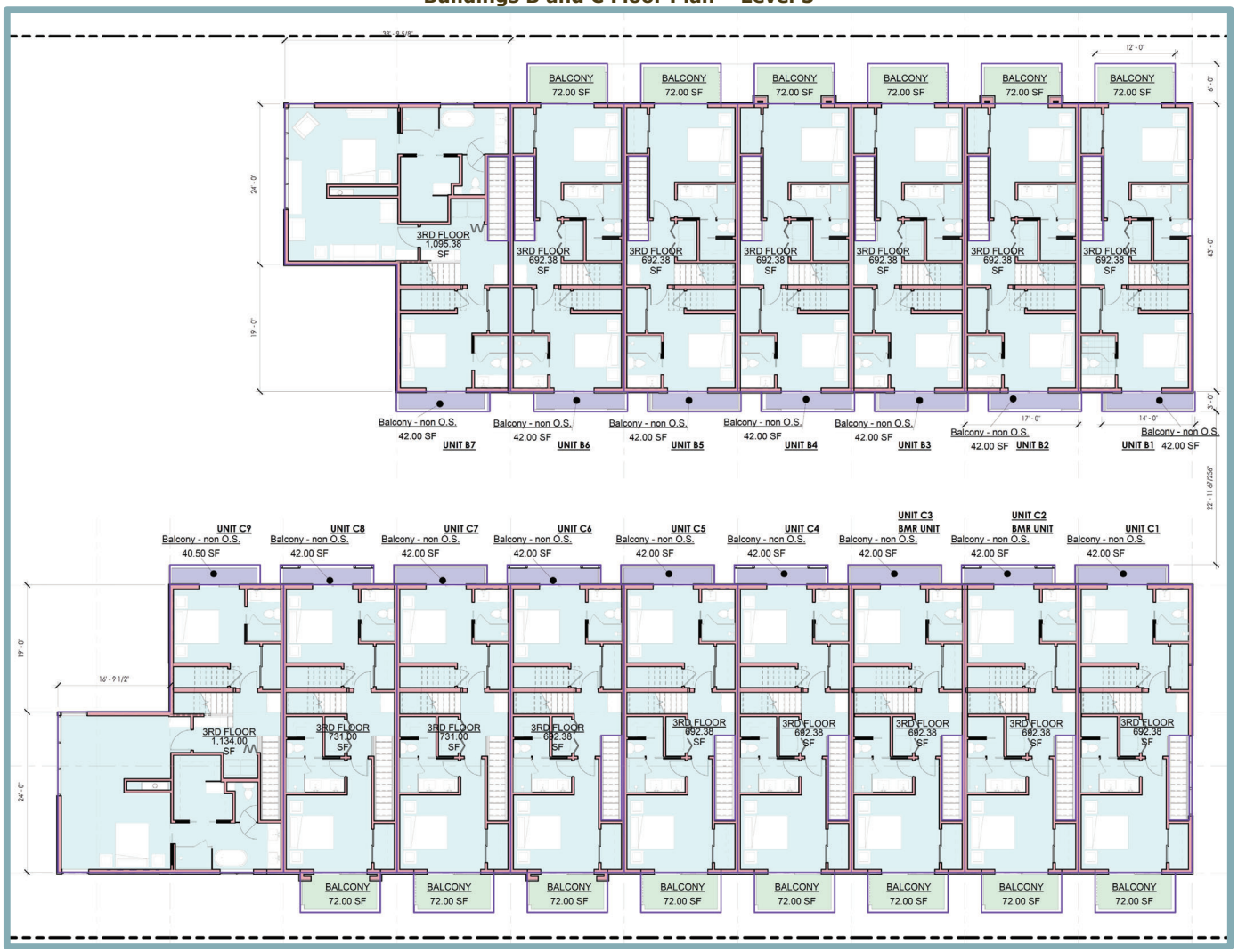


Figure 7
Buildings B and C Floor Plan – Level 3



Landscaping

The proposed project would include landscaping features throughout the development area, the off-site improvement area, and along the Crespi Drive frontage (see Figure 8 and Figure 9). Proposed plant types include, but are not limited to, crape myrtle, desert willow, sea lavender, dwarf mat rush, and Cleveland sage. All landscaping improvements would be consistent with the City's landscape design requirements (which require a minimum of 10 percent of the area in commercial zoning districts to be landscaped), and would include at least two inches of mulch.

Utilities

Sewer service for the proposed project would be provided by the City. The proposed project would include connection to existing sanitary sewer infrastructure in Crespi Drive. Each building would be served by an eight-inch sanitary sewer line to connect to the proposed residential units (see Figure 10). In addition, each building would be constructed with a new sanitary sewer cleanout connected to the eight-inch sewer lines. The eight-inch lines would eventually connect to an existing sanitary sewer line within Crespi Drive to be routed to the City's wastewater treatment plant. Water service would be provided by the North Coast County Water District (NCCWD) through connection to the existing water main located at Crespi Drive. A four-inch water line would be routed from all three buildings to provide fire service, while a three-inch water line would be routed from the proposed buildings to provide domestic water services. Electricity services would be provided by Pacific Gas & Electric (PG&E). A new vault would be constructed by PG&E in the northern portion of the project site, near Building A, to provide electricity to the proposed structures. In addition, the proposed project would connect to existing telecommunications infrastructure in the project area.

All runoff from impervious areas within the project site, including all hardscape, parking areas, and driveways would be collected by new four-, six-, eight- and 10-inch storm drain pipes within the proposed driveway and parking area (see Figure 11). Runoff flowing through the storm drains would empty into proposed bioswales on the western and eastern boundaries of the site or be directed to a bioretention area in the southeast corner of the project site. Treated stormwater would either be discharged into the vacant land to the south of the development area or into the City's stormwater system through connection of an existing six-inch storm drain west of the site. An 18-inch emergency overflow riser would be installed in the western corner of the project site and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary (see Figure 12). The proposed driveway and parking area north of the existing Community Center would be a self-treating area.

Off-Site Improvements

The proposed project would include various off-site improvements associated with the access and circulation. As discussed above, the proposed project would include construction of a new west to east driveway off Crespi Drive along the northern boundary of the Pacifica Community Center. Additional off-site improvements would include construction of a driveway and 17 parking spaces to the west of the project site, a drop-off area, a new trash containment area, removal of two trees, and landscape improvements. Figure 13 presents the proposed off-site improvements.

Discretionary Actions

The proposed project would require City approval of the following:

- General Plan Amendment to redesignate Parcel 2 from Public and Semi-Public and Park land use designations to Mixed Use Center land use designation
- Rezoning of the site from M-1 to C-2;

Figure 8
Site Landscaping Plan

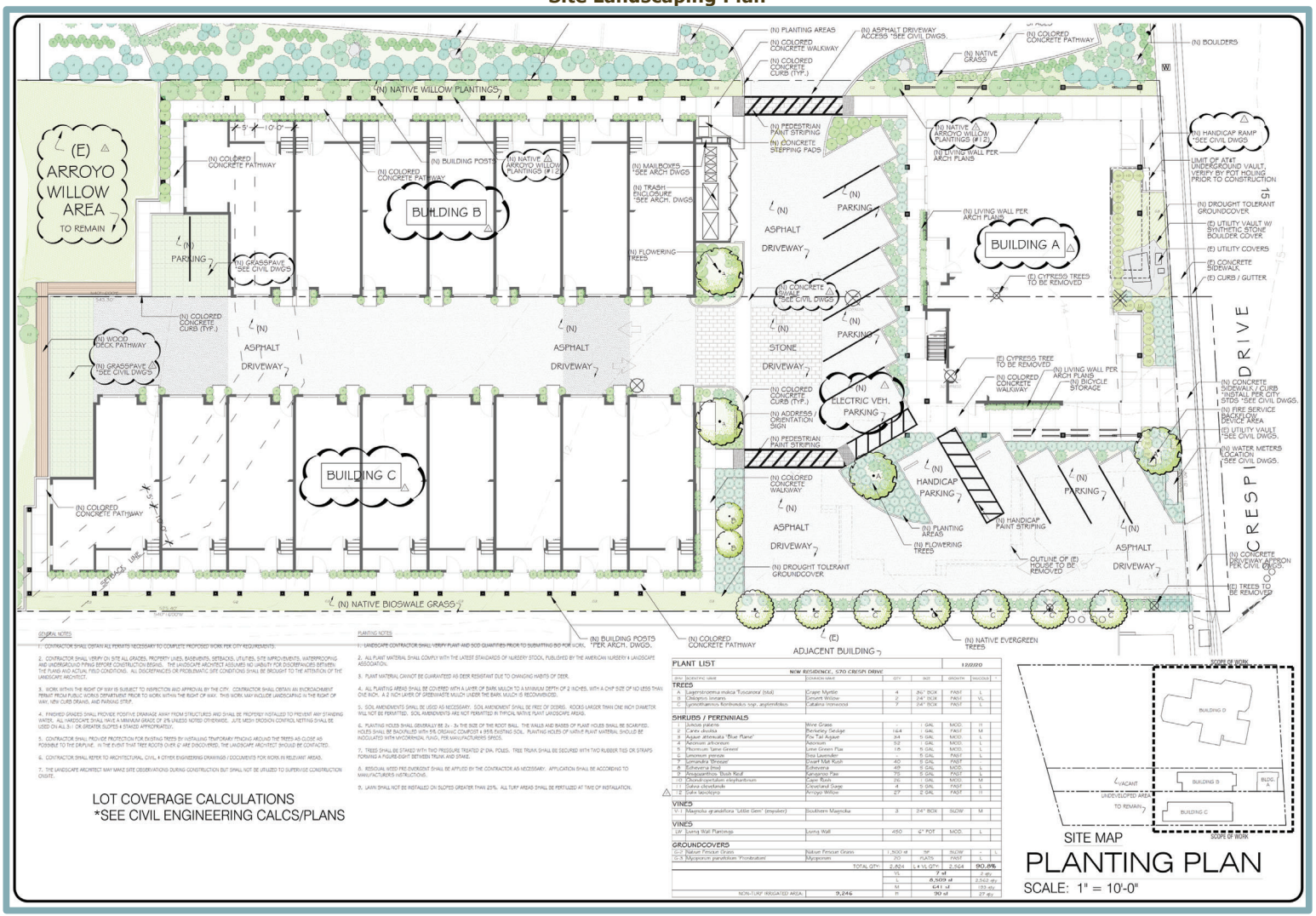


Figure 9
Off-Site Landscaping Plan

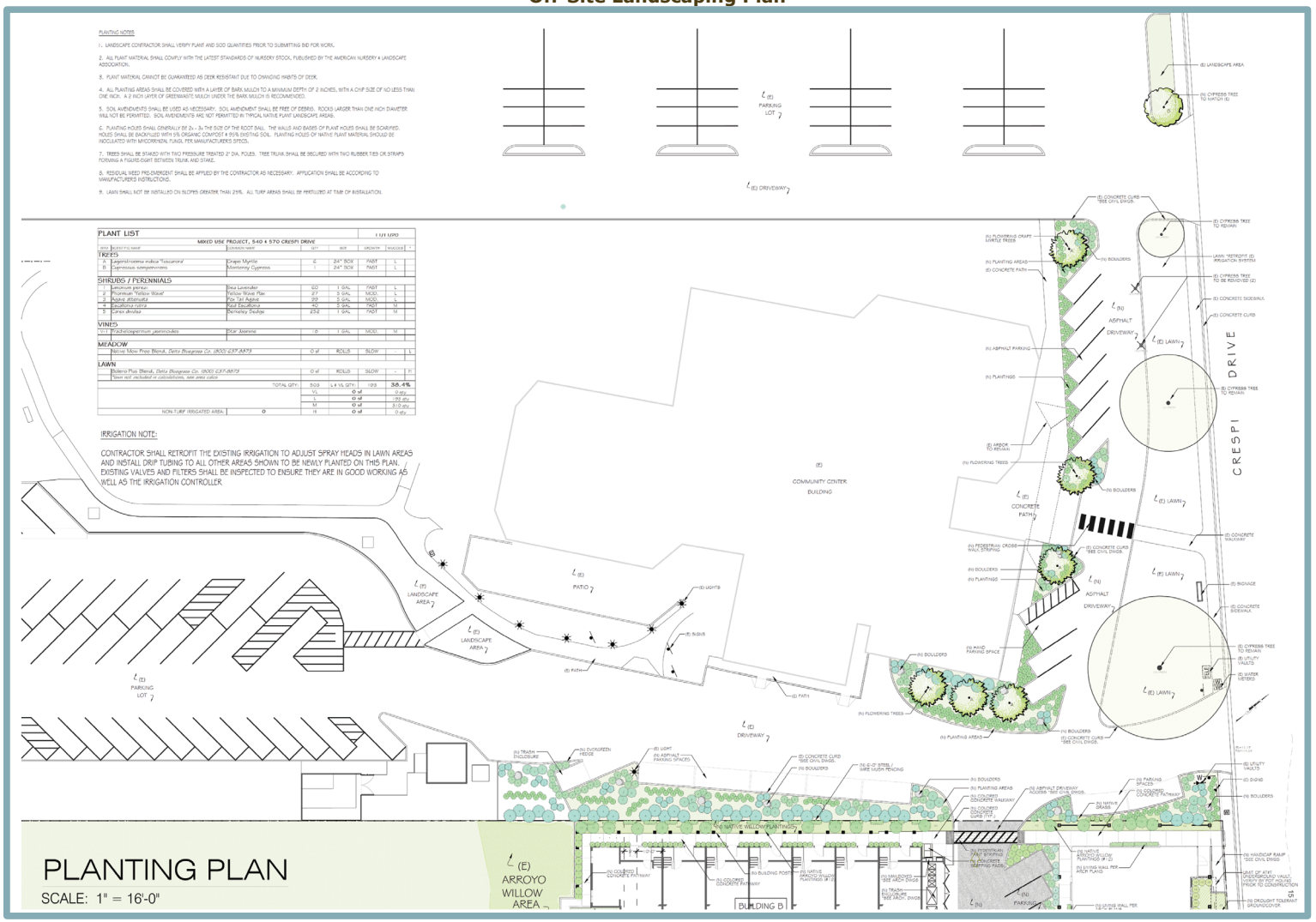


Figure 10
Preliminary Utility Plan

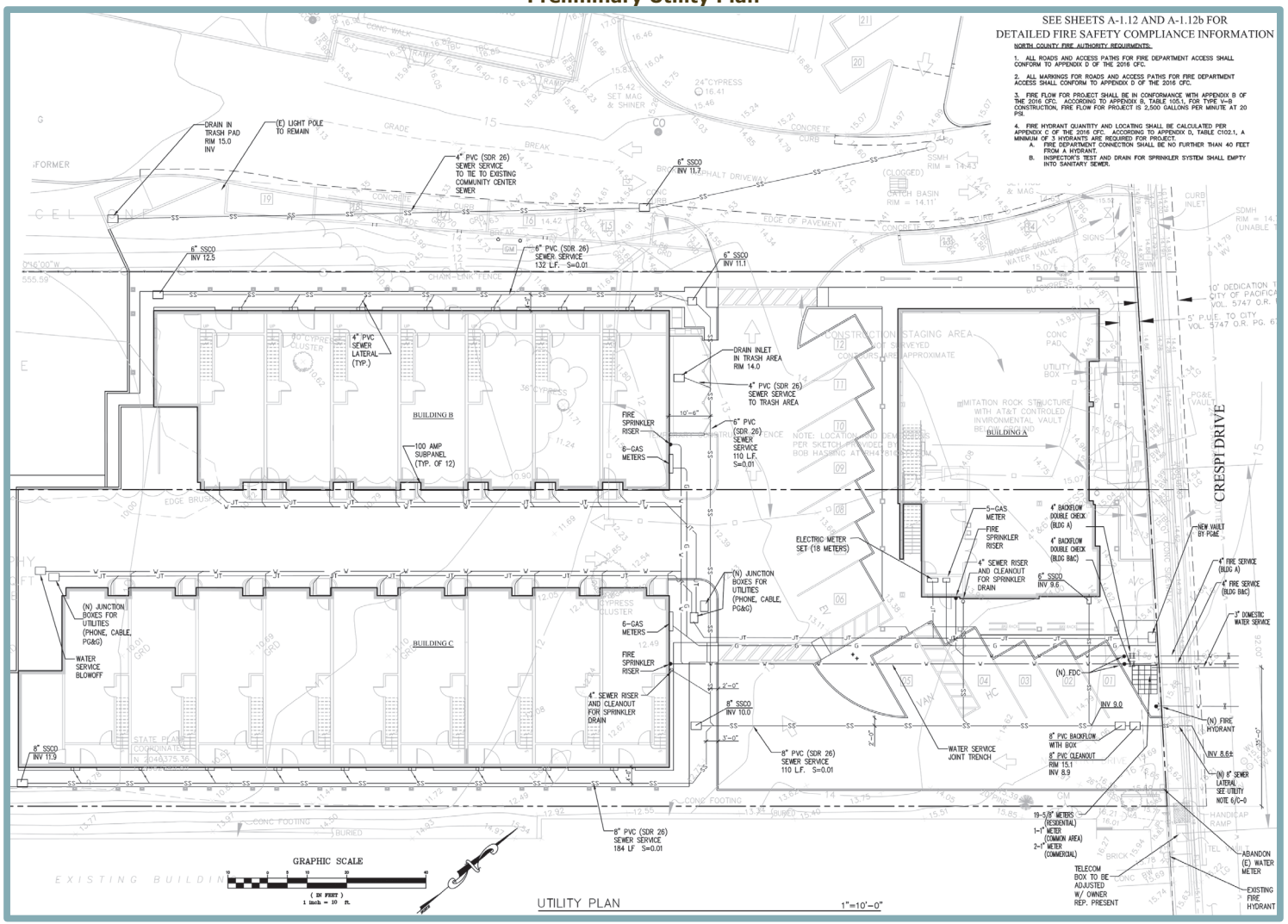


Figure 11
Preliminary Grading and Drainage Plan – Northeastern Portion

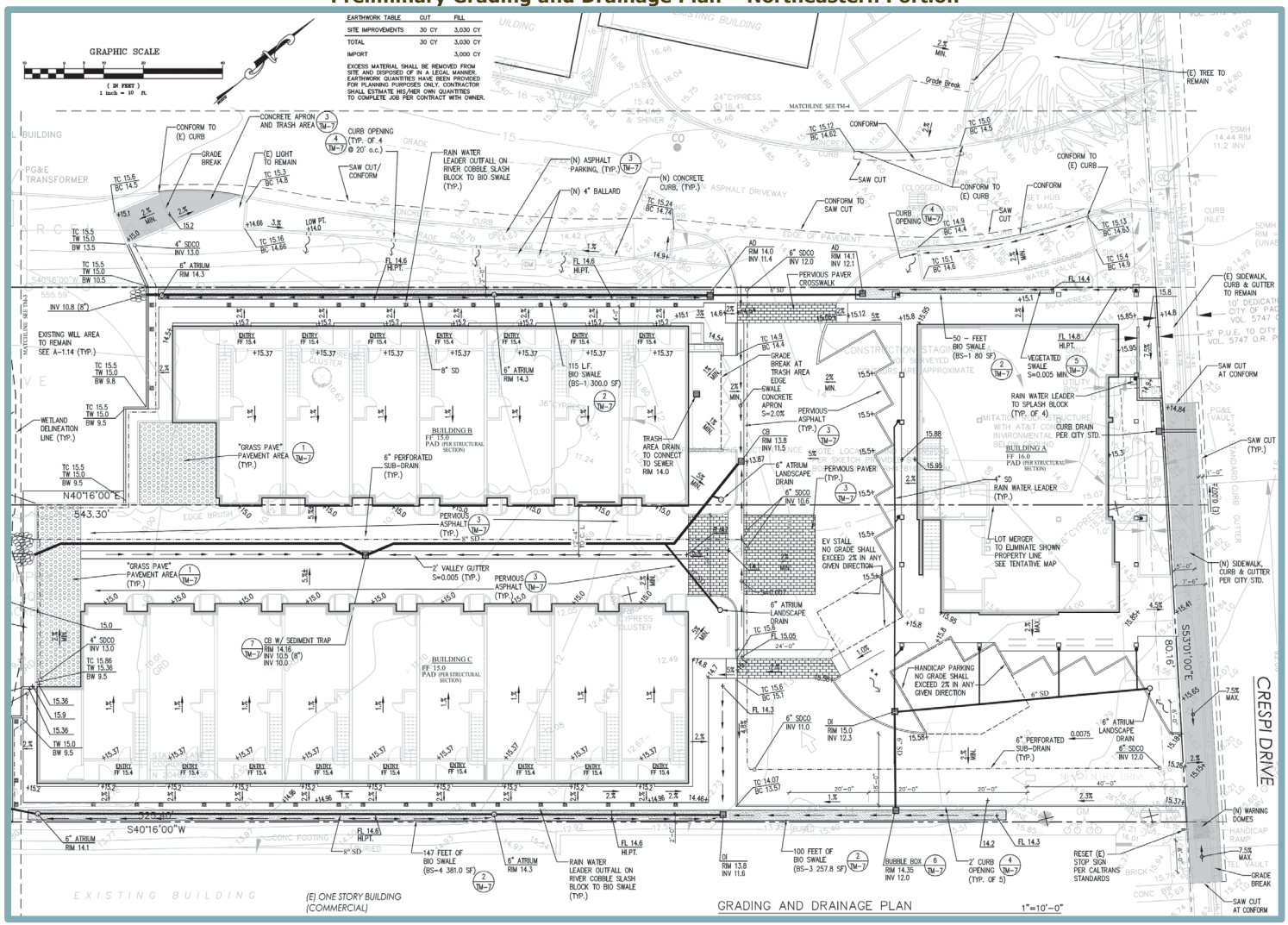


Figure 12
Preliminary Grading and Drainage Plan – Southwestern Portion

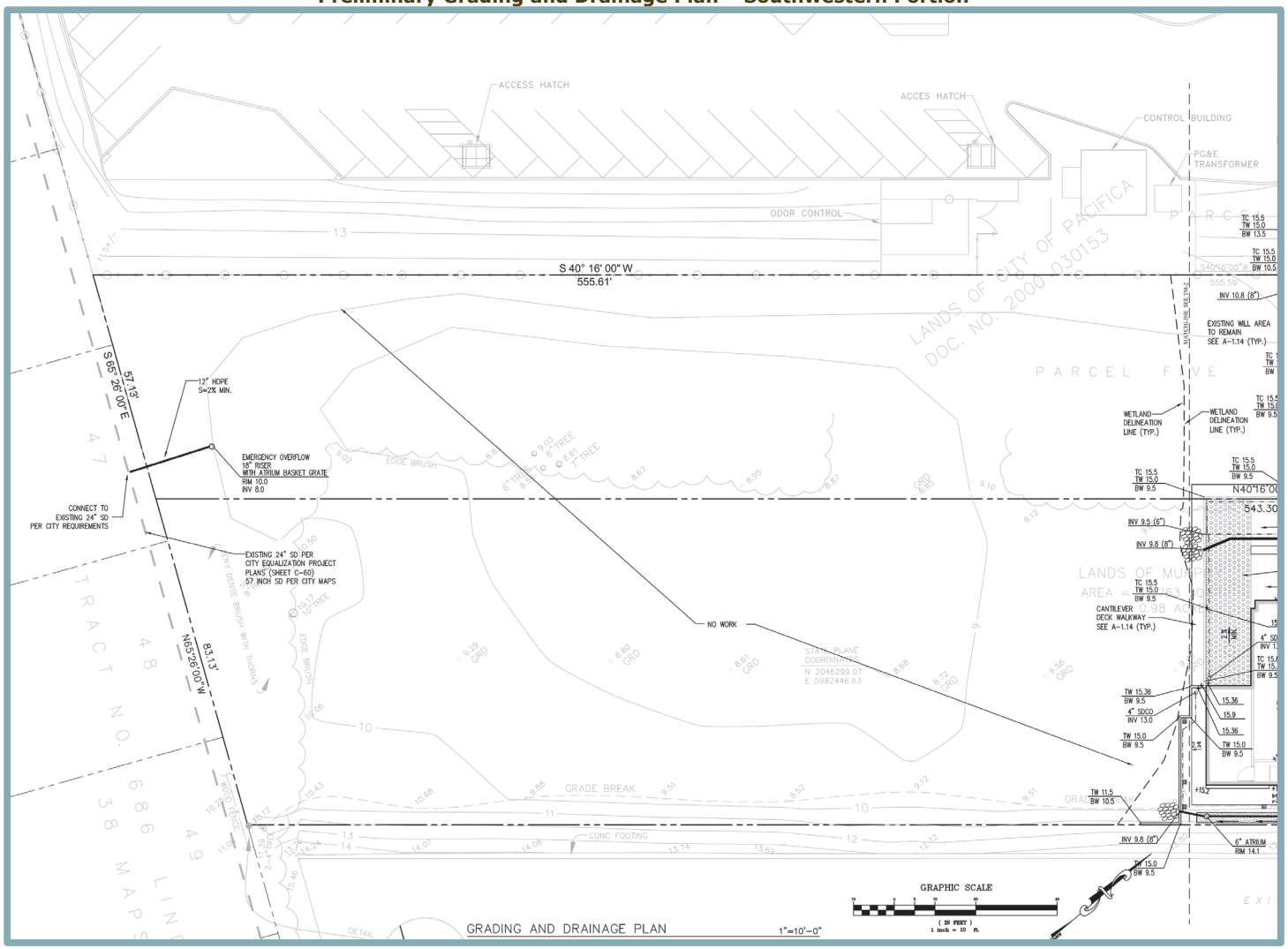
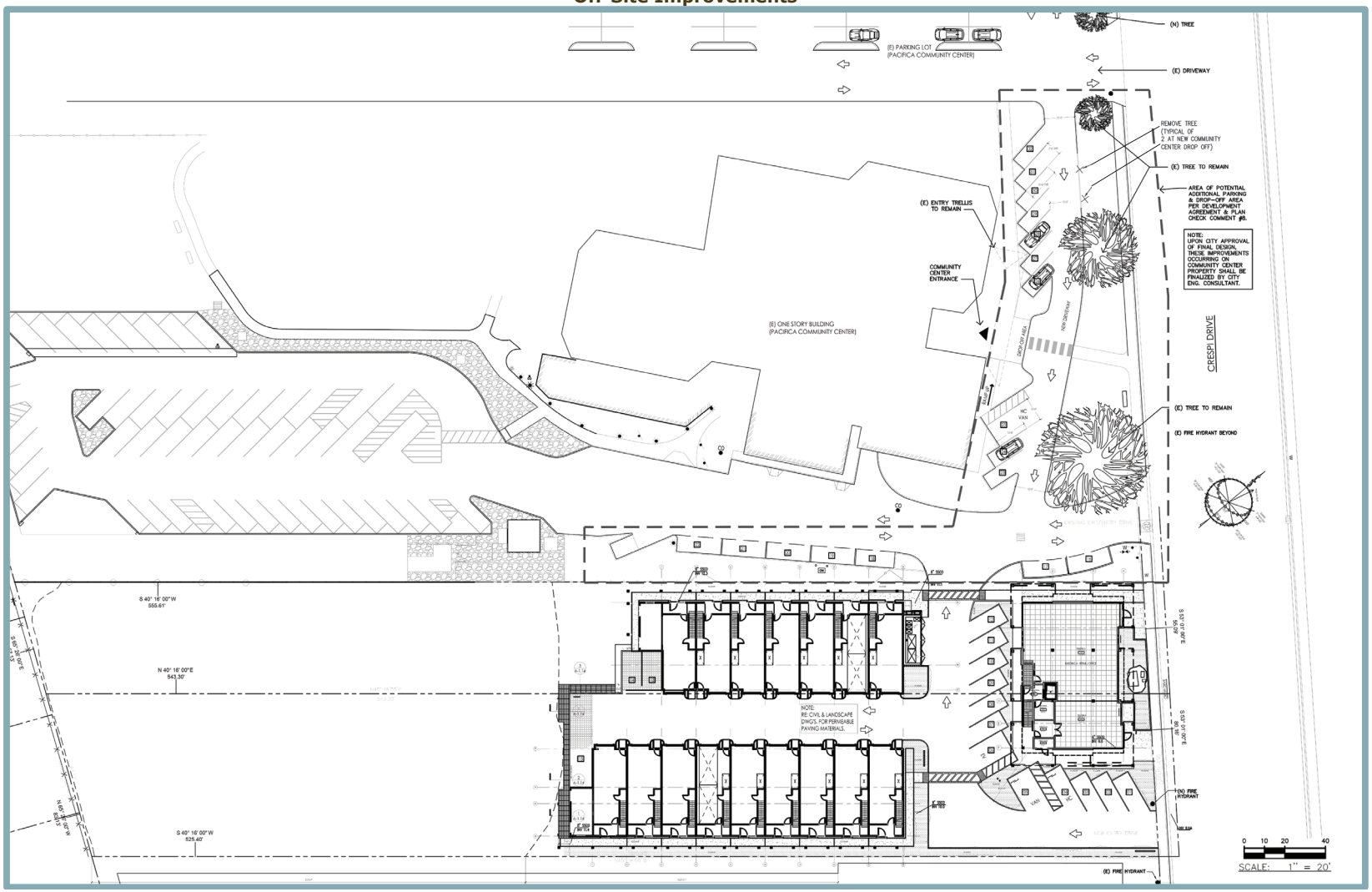


Figure 13
Off-Site Improvements



- Zoning Text Amendment to allow residential uses in buildings that do not contain commercial uses in C-2 zoning district;
- Development Agreement to require certain public benefits and to provide certain developer benefits;
- Use Permit to allow residential uses within the C-2 zone;
- Site Development Permit and Use Permit to allow a clustered residential housing development;
- Parking Exception to allow an exception to the off-street parking requirement;
- Sign Permit to allow a master sign program for commercial tenants;
- Tentative Subdivision Map to create new residential and commercial condominiums;
- Lot Merger and/or LLA to merge APN 022-162-310 and a portion of APN 022-162-420; and
- Tree Removal Permit to authorize tree removal.

G. ENVIRONMENTAL CHECKLIST

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to evaluate the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

I. AESTHETICS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	✖	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	✖	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	✖	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	✖	☐

Discussion

a. Examples of typical scenic vistas would include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project's impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. Various policies throughout the City's General Plan, including Policy CD-G-6 Scenic and Visual Amenities of the Coastal Zone, set the goal of protecting the City's irreplaceable scenic and visual amenities, such as the coastal zone and the scenic routes along SR 1.

Surrounding uses to the project site include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

Parcel 1 of the project site is currently designated by the City of Pacifica General Plan as Mixed Use Center and Parcel 2 is designated Public and Semi-Public and Park. While the proposed project would include a General Plan Amendment to redesignate Parcel 2, the redesignation would make Parcel 2 consistent with Parcel 1 and the MUC designation. In addition, the proposed project would include new development only on Parcel 1, and would be consistent with the existing General Plan designation of Parcel 1. As such, the proposed project would not be substantially different than what has been anticipated in the City's General Plan. In addition, the proposed off-site improvements would consist of minor upgrades to the existing Pacifica Community Center. It should be noted that, although the project requires approval of a Rezoning and a Zoning Text Amendment, the proposed project would result in similar visual features as that of mixed-use commercial and residential development and would be consistent with the Mixed Use Center land use designation.

Based on the above, designated scenic vistas do not exist in the project area, and the project is consistent with the level of development that has been anticipated for the site in the General Plan. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista, and a ***less-than-significant*** impact would occur.

b. The City does not contain an Officially Designated Scenic Highway.[1] SR 1, located approximately 0.75-mile west of the project site, is an Eligible State Scenic Highway, but is not officially designated. In addition, the project site is only partially visible from SR 1 due to existing development between the site and SR 1. Furthermore, the proposed project would be consistent with the developed nature of the surrounding area. It should also be noted that a portion of the trees at the project site frontage would be retained as part of the proposed project. Thus, the proposed project would not substantially damage scenic resources, including, but not limited to, trees rock outcroppings, and historic buildings within a State Scenic Highway. As such, a ***less-than-significant*** impact would occur.

c. The project site is located in an urbanized area of the City. As noted above, surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Pacific Ocean is located further west of the site, beyond SR 1. Currently, Parcel 1 is vacant and partially covered in vegetation. Several trees and shrubs are located throughout Parcel 1. Parcel 2, which is comprised of the 0.70-acre portion of land north of Parcel 1 and adjacent to the Pacific Community Center, is currently partially paved. Because the proposed project would include a Rezoning, the proposed change in zoning has the potential to conflict with zoning or other regulations governing scenic quality. The following discussion evaluates the proposed project's aesthetic consistency with surrounding land uses, and compliance with regulations related to scenic quality.

As shown in Figure 14, the primary view of the project site from Crespi Drive consists of vegetation, trees, and shrubbery, as well as the existing hillside to the east. Additionally, it is noted that the project site has been subject to previous disturbance related to development and subsequent demolition of buildings that had been located on the project site. As a result, the existing visual character of the project site does not represent natural and/or non-urban conditions. The anticipated view of the project site following development of the proposed project is shown in Figure 15. As demonstrated therein, the visual character of the project site would partially change as a result of the proposed project. Although the proposed project would include the removal of several on-site trees, the project would preserve trees along the project site frontage and within the off-site improvement area. In addition, the project site has been planned for development and, as a result, such a change in visual character has been previously anticipated and evaluated.

The existing views from SR 1 of the hills behind the proposed buildings would remain following implementation of the project. Additionally, the site is surrounded by existing development and the project would be consistent with the scale of existing nearby development. Therefore, the proposed project would not substantially degrade the existing visual character of the site and the surrounding area.

Furthermore, development of the proposed project and associated changes to the visual character and quality of Parcel 1, where the majority of the proposed development would occur, has been anticipated by the City's General Plan through the MUC land use designation. Additionally, the proposed off-site improvements would include minor upgrades to the Pacific Community Center property to construct a new driveway and 17 parking spaces and would be consistent with the type and scale of the existing development.

[1] California Department of Transportation. *Scenic Highways* Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed April 2020.

Figure 14
Current Views of Site

VIEW - 1

VIEW - 2

VIEW - 3

VIEW - 4

VIEW - 6

VIEW - 5

Figure 15
Proposed View of Project Site

Although the project would require approval of a General Plan Amendment, Rezoning and a Zoning Text Amendment, the proposed project would be generally consistent with the surrounding land use types and development intensity. For instance, the surrounding area is currently occupied by single- and multi-family residences, as well as commercial uses. Based on the above, the proposed project is within the scope of what has been anticipated for development on the project site by the City, and is consistent with the developed nature of the surrounding area.

Based on the above, the project site is located in an urbanized area, and development of the project has been generally anticipated by the City. Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic qualities, and a ***less-than-significant*** impact would occur.

d. Parcel 1 is currently undeveloped and consists of areas with dense vegetation, ruderal grasses, and dirt patches. Sources of light and glare do not exist within Parcel 1, where the majority of the proposed development would occur. Therefore, development of the proposed project would introduce new sources of light and glare where none currently exist. Sources of light would include, but would not be limited to, illuminated signage, exterior and interior lighting associated with the proposed townhouses, and vehicle headlights within the site. The new structures would include windows which could reflect light and create glare in the surrounding area. However, the structures would be set back from the street by at least 15 feet and windows would not directly face the entrance of any nearby residence. Furthermore, because existing development is located to the south, east, and west, the increase in light and glare sources would be consistent with the existing setting and would not be expected to result in significant adverse effects to daytime and nighttime views in the area.

In addition, the Pacifica Design Guidelines require that exterior lighting is subdued and enhance building design.[2] The Guidelines prohibit use of lighting that creates glare for occupants or neighbors, and require that large areas requiring illumination are lit with low, shielded fixtures. The proposed off-site parking spaces would be subject to such Guidelines as well. Compliance with the Pacifica Design Guidelines would ensure that the project would not introduce sources of light or glare that would pose a hazard or nuisance to neighboring development.

As such, a ***less-than-significant*** impact would occur related to the creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

[2] City of Pacifica. *Design Guidelines* [pg. 3]. Revised April 1990.

II. AGRICULTURE AND FOREST RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	✖	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	✖
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	✖
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	✖
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	✖	☐

Discussion

a,e. Per the California Department of Conservation Important Farmland Finder, the project site consists entirely of Urban and Built-Up Land.[3] Furthermore, the site is not zoned or designated in the General Plan for agriculture uses. Therefore, the proposed project would result in a ***less-than-significant*** impact related to converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or involving other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

b. Currently, Parcel 1 of the project site is designated MUC by the City's General Plan, while Parcel 2 is designated Public and Semi-Public, as well as Park. Both parcels are zoned M-1. Although the proposed project would include a General Plan Amendment to redesignate Parcel 2 to MUC and Rezone of the site to C-2, the City has anticipated development of the site with non-agricultural uses. Furthermore, the site is not under a Williamson Act contract and is not zoned for agricultural uses. Therefore, buildout of the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and ***no impact*** would occur.

c,d. The project area is not considered forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). Therefore, the proposed project would have ***no impact*** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

[3] California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/dlrp/ciff/. Accessed June 2021.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	✖	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✖	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	✖	☐

Discussion

a,b. The City of Pacifica is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for the State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM_{10} standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area

is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM_{10}, and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding the BAAQMD's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$, a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts.

Table 1
BAAQMD Thresholds of Significance

Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10

Source: BAAQMD, CEQA Guidelines, May 2017.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2022.1.1.25 – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, and compliance with the California Building Standards Code (CBSC). Where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumes the following project and/or site-specific information:

- Construction would begin in June 2025;
- Construction would occur over an approximately two-year period;
- Grading would involve import of approximately 2,400 cubic yards of soil;
- Natural gas hearths were not included; and
- The project would comply with the Model Water Efficient Landscape Ordinance (MWELO) and the applicable CALGreen Code.

The modeling incorporated construction of the off-site improvements as well. The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project's contribution to cumulative air quality conditions is provided below as well. All CalEEMod results are included as Appendix A to this IS.

Construction Emissions

According to the CalEEMod results, the proposed project, including the off-site improvements, would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project's construction emissions would be below the applicable thresholds of significance for NO_X, ROG, PM_{10}, and $PM_{2.5}$.

Table 2
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
ROG	2.93	54	**NO**
NO_X	15.00	54	**NO**
PM_{10}*	0.65	82	**NO**
$PM_{2.5}$*	0.60	54	**NO**

Note:
* Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, July 2024 (see Appendix A).

All projects under the jurisdiction of the BAAQMD are required to implement all of the BAAQMD's Basic Construction Mitigation Measures, which include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project's required implementation of the BAAQMD's Basic Construction Mitigation Measures listed above would help to further minimize construction-related emissions.

Even without consideration of BAAQMD's Basic Construction Mitigation Measures, as shown in Table 2, construction of the proposed project would result in emissions of criteria air pollutants below BAAQMD's thresholds of significance. Consequently, the proposed project would not conflict with air quality plans during project construction.

Operational Emissions

According to the CalEEMod results, the proposed project would result in the maximum unmitigated operational criteria air pollutant emissions shown in Table 3. As shown in the table, the proposed project's operational emissions would be below the applicable thresholds of significance.

Table 3
Unmitigated Maximum Operational Emissions

Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
ROG	1.95	0.32	54	10	**NO**
NO_X	0.80	0.12	54	10	**NO**
PM_{10}*	0.02	0.01	82	15	**NO**
$PM_{2.5}$*	0.02	0.01	54	10	**NO**

* Emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, July 2024 (see Appendix A).

Because the proposed project's operational emissions would be below the applicable thresholds of significance, the proposed project would not be considered to conflict with air quality plans during project operations.

Cumulative Emissions

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project's emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region's existing air quality conditions. Because the proposed project would not result in emissions above the applicable thresholds of significance for ROG, NO_X, PM_{10}, or $PM_{2.5,}$ the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because the proposed project would not result in construction-related or operational emissions of criteria air pollutants in excess of BAAQMD's thresholds of significance, conflicts with or obstruction of the implementation of regional air quality plans would not occur. In addition, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Thus, a ***less-than-significant*** impact would result.

c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors include the Pacifica Community Center, located approximately 50 feet to the west, the Ocean View Senior Apartments, located approximately 150 feet to the north, and the existing single-family residences, located approximately 200 feet to the south. Cabrillo Elementary School is located approximately 600 feet east of the project site.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

As discussed in Section XVII, Transportation, given that the project would generate fewer than 100 peak hour trips and that Parcel 1 would remain consistent with the current MUC land use designation, the project would not conflict with the San Mateo County Congestion Management Program (CMP).[4] In addition, based on the California Department of Transportation (Caltrans) traffic counts for the State Highway System in 2019, the roadway segment of SR-1 closest to the project site, near Linda Mar Boulevard, experiences traffic volumes ranging from 2,000 to 3,200 trips per peak hour, which is far below BAAQMD's threshold of 44,000 vehicles per hour.[5] Thus, the minimal number of trips generated by the proposed project would not increase traffic volumes at an affected intersection to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area. As such, the proposed project would not be expected to expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, short-term, construction-related activities could result in the generation of TACs, primarily DPM, from off-road equipment exhaust emissions. Consequently, the operation of off-road equipment within the project site during project construction could result in exposure of nearby students and residents to DPM.

BAAQMD has established thresholds for local community risk and hazard impacts that may be used when siting new sources of pollution. The BAAQMD's thresholds for analyzing health risks from new sources of emissions are presented below:

- Non-compliance with a qualified risk reduction plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ would be a cumulatively considerable contribution.

[4] City/County Association of Governments. *San Mateo County Congestion Management Program.* April 9, 2020.
[5] California Department of Transportation. *Traffic Census Program.* Available at: https://dot.ca.gov/programs/traffic-operations/census. Accessed December 2022.

Although the proposed project would not involve the siting or operation of any permanent sources of TACs, in the absence of specific thresholds for use when analyzing health risks from short-term projects, the foregoing BAAQMD thresholds are applied to the project, for construction specifically.

To analyze potential health risks to nearby students and residents that could result from DPM emissions from off-road equipment at the project site, total DPM emissions from project construction were estimated. DPM is considered a subset of $PM_{2.5}$ and, thus, the CalEEMod estimated $PM_{2.5}$ emissions from exhaust during construction of the proposed structures as well as the off-site improvements was conservatively assumed to represent all DPM emitted on-site. The CalEEMod estimated $PM_{2.5}$ exhaust emissions were then used to calculate the concentration of DPM at the maximally exposed sensitive receptor near the project site. DPM concentrations resulting from project implementation were estimated using the American Meteorological Society/Environmental Protection Agency (AMS/EPA) Regulatory Model (AERMOD). The associated cancer risk and non-cancer hazard index were calculated using the CARB's Hotspot Analysis Reporting Program Version 2 (HARP 2) Risk Assessment Standalone Tool (RAST), which calculates the cancer and non-cancer health impacts using the risk assessment guidelines of the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual for Preparation of Health Risk Assessments.[6] The modeling was performed in accordance with the USEPA's User's Guide for the AERMOD and the 2015 OEHHA Guidance Manual.[7,8] The results of the air dispersion modeling are presented in Figure 16. As shown therein, the maximally exposed receptor, depicted by a white X, would be located immediately northeast of the project site.

Based on the foregoing methodology, and the methodology presented in response to questions 'a' and 'b' regarding the estimation of construction emissions, the cancer risk and non-cancer hazard indices at the maximally exposed receptor were estimated and are presented in Table 4.

Table 4
Maximum Unmitigated Cancer Risk and Hazard Index Associated with Project Construction DPM

	Cancer Risk (per million persons)	Acute Hazard Index	Chronic Hazard Index
Construction DPM Health Risks	4.80	0.00	0.003
Thresholds of Significance	10.00	1.00	1.00
Exceed Thresholds?	**NO**	**NO**	**NO**

Source: AERMOD and HARP 2 RAST, July 2024 (see Appendix A).

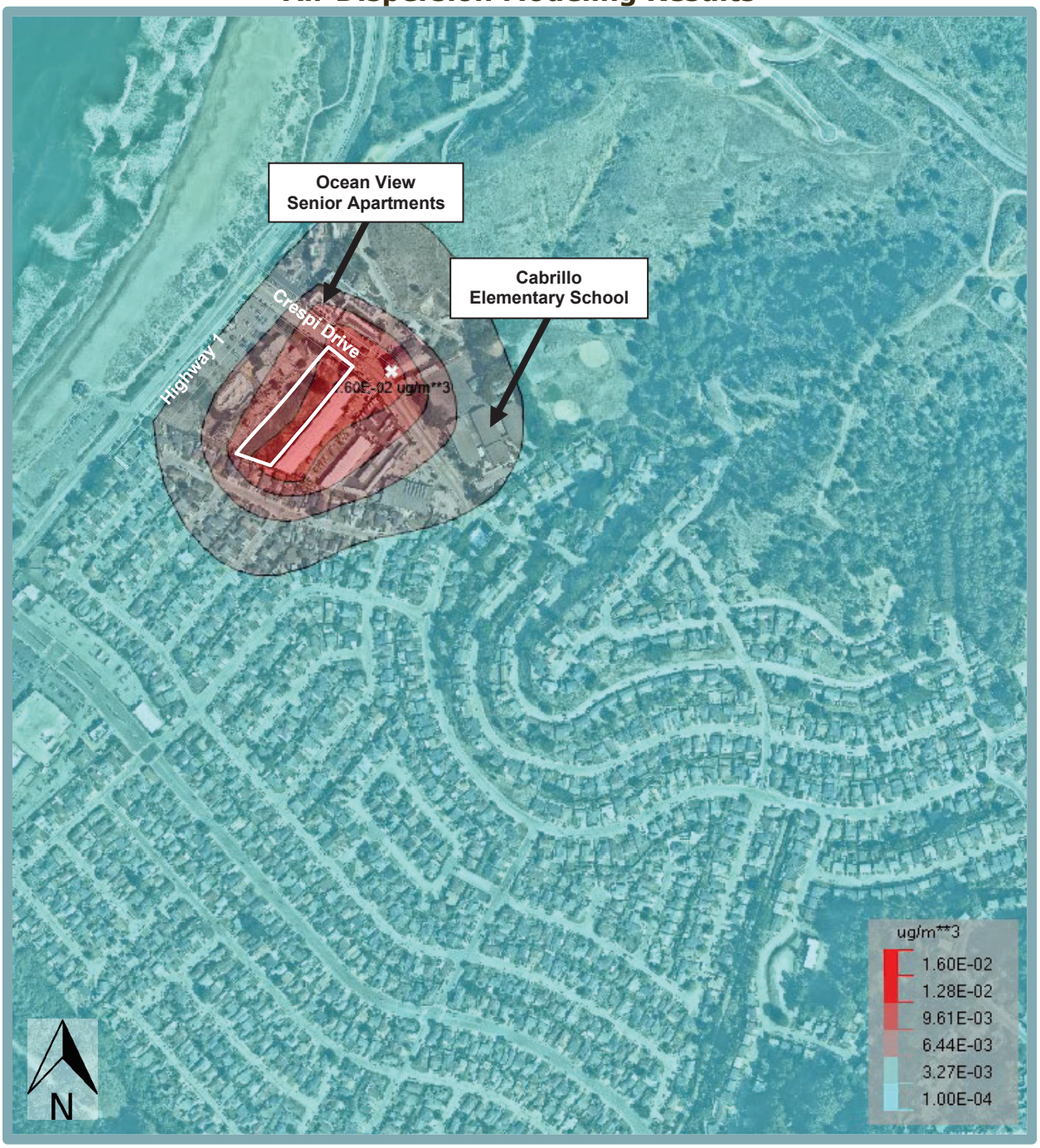
As shown in Table 4, construction of the proposed project would not result in cancer risk, acute hazards, or chronic hazards in excess of BAAQMD's standards.

6 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments* [pg. 8-18]. February 2015.

7 U.S. Environmental Protection Agency. *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*. December 2016.

8 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*. February 2015.

Figure 16
Air Dispersion Modeling Results



Source: AERMOD, July 2024 (see Appendix A).

In addition, the maximum annual concentration of DPM at the maximally exposed sensitive receptor from construction of the proposed project would be 0.016 µg/m^3, which is well below the BAAQMD's 0.3 µg/m^3 threshold for a cumulatively considerable impact. Thus, construction of the proposed project would not result in exposure of nearby receptors to substantial pollutant concentrations.

Criteria Pollutants

The BAAQMD thresholds of significance were established with consideration given to the health-based air quality standards established by the federal and State AAQS, and are designed to aid the BAAQMD in achieving attainment of the AAQS.[9] Although the BAAQMD's thresholds of significance are intended to aid achievement of the AAQS for which the SFBAAB is in nonattainment, the thresholds of significance do not represent a level above which individual project-level emissions would directly result in public health impacts. Nevertheless, a project's compliance with BAAQMD's thresholds of significance provides an indication that criteria pollutants released as a result of project implementation would not inhibit attainment of the health-based regional AAQS. Because project-related emissions would not exceed the BAAQMD's thresholds, and, thus, would not inhibit attainment of regional AAQS, the criteria pollutants emitted during project implementation would not be anticipated to result in measurable health impacts to sensitive receptors. Accordingly, the proposed project would not expose sensitive receptors to excess concentrations of criteria pollutants.

Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to excess concentrations of localized CO or criteria pollutants during construction or operation. In addition, construction of the project would not result in exposure of nearby receptors to cancer risks in excess of the BAAQMD's standards. Consequently, the proposed project would result in a ***less-than-significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

d. Emissions such as those leading to odors have the potential to adversely affect sensitive receptors within the project area. Pollutants of principal concern include emissions leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in section "a" through "c" above. Therefore, the following discussion focuses on emissions of odors and dust.

Per the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.[10] Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating

[9] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
[10] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 7-1]. May 2017.

land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, as discussed above, construction activities would be temporary, and hours of operation for construction equipment would be restricted per Section 8-7.5.07 of the Pacifica Municipal Code. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

As noted previously, all projects under the jurisdiction of BAAQMD are required to implement the BAAQMD's Basic Construction Mitigation Measures. The aforementioned measures would act to reduce construction related dust, such as the watering of exposed surfaces, covering of haul trucks, and reduction of truck speed on unpaved roads, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, the project site would not include any exposed topsoil. Thus, project operations would not include any substantial sources of dust.

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a ***less-than-significant*** impact would result.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	✖	☐	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	✖	☐	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	✖	☐	☐	☐
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	✖	☐	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	✖	☐	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	✖

Discussion

a-d. Certain plant and wildlife species are considered to have special status if they meet the following criteria:

- Plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection to listed and proposed species;
- California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue;
- U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern;
- Sensitive species included in USFWS Recovery Plans; and
- CDFW special-status invertebrates.

Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on California Native Plant Society (CNPS) Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

Currently, the northern portion of the project site supports several large trees with a groundcover of herbaceous vegetation. The southern portion of the project site gradually becomes dominated by wetland vegetation. In addition, the off-site improvement area hosts three large trees that would be preserved, and two other trees that would be removed. The proposed project would include disturbance of the existing on-site habitat and development of the project site with three buildings, and off-site improvements to the north. Should any special-status plant and/or wildlife species be present on-site or adjacent to the site, the proposed project could potentially result in a substantial adverse effect to such species.

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. The habitats are protected under federal regulations, such as the Clean Water Act (CWA), and State regulations, such as the Porter-Cologne Act and the CDFW Streambed Alteration Act. Riparian habitats are described as the land and vegetation that is situated along the bank of a stream or river. Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year. The southern portion of the project site consists of a seasonal drainage and wetland area which provides riparian habitat. Additionally, the on-site wetland has the potential to be State or federally protected and a potentially significant impact could occur.

Movement corridors or landscape linkages are usually linear habitats that connect two or more habitat patches, providing assumed benefits to the species by reducing inbreeding depression and increasing the potential for recolonization of habitat patches. As the project site is currently undeveloped and includes a seasonal drainage, the site could offer a linkage to the Pacific coast and/or the nearby San Pedro Creek for migratory wildlife and a potentially significant impact could occur.

Based on the above, the proposed project could result in a substantial adverse effect on sensitive or special-status species, riparian habitats or other sensitive natural habitats, federally or State-protected wetlands, or interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, the project could result in a ***potentially significant*** impact.

Further analysis of the above impacts will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

e. Title 4 Chapter 12 of the Pacifica Municipal Code stipulates regulations designed to preserve protected trees on private or City-owned property. At least eight trees are planned for removal in order to facilitate construction of the proposed project. As such, the proposed project would require approval of a tree removal permit prior to commencement of construction activities. However, further evaluation is required in order to identify if any other individual trees are protected under the City's current tree protection ordinance. Furthermore, because some trees would remain on-site, a tree protection plan would be required in accordance with Sections 4-12.07 and 4-12.08 of the City's Municipal Code.

Based on the above, the proposed project could conflict with a local policy or ordinance protecting biological resources. Therefore, the project could result in a ***potentially significant*** impact.

Further analysis of the above impact will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

f. Adopted Habitat Conservation Plans or Natural Conservation Community Plans covering the project site do not exist. Therefore, the proposed project would not conflict with the provisions of such a plan, and ***no impact*** would occur.

V. CULTURAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	✖	☐	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	✖	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	☐	✖	☐	☐

Discussion

a-c. Historical resources are typically features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

Currently, the project site is vacant. Thus, the site does not contain any permanent structures which could be considered historical resources pursuant to Section 15064.5 of the CEQA Guidelines. Additionally, portions of the project site that would be developed as part of the project have been subject to previous disturbance. According to the Pacifica General Plan, the only federal and State listed historic resource within the area is the Portola Expedition Camp at Pedro Creek, which is located approximately 475 feet north of the project site, southeast of SR 1 where it intersects with Crespi Drive. Thus, the project site does not contain any existing structures or other above-ground resources that could be considered historic. However, the potential exists for previously unknown historic-era subsurface resources to occur on the project site. If present, such resources could be adversely affected by ground-disturbing activities associated with project construction.

A records search of the California Historic Resources Information System (CHRIS) was performed on March 10, 2020 by the Northwest Information Center (NWIC) for cultural resource site records and survey reports within the project area. According to the records search, the project site does not contain any documented archaeological resources. However, the NWIC also stated that the California Inventory of Historic Resources lists one of the Portola Expedition camps in close proximity to the project site. In addition, Portola's San Francisco Bay Discovery site is in close proximity to the project site. Based on such, the NWIC concluded that the project site has a moderate potential for unrecorded archaeological resources to occur.[11]

The off-site improvement area is already developed with turf landscaping, and the minor paving that is proposed would be constructed near the surface of the ground which would not result in substantial ground disturbance. Nonetheless, in the unlikely chance that cultural resources are encountered during construction, a potential impact could occur.

[11] Northwest Information Center. *Re: Record search results for the proposed project located at 570 Crespi Drive, Pacifica, San Mateo County, California.* March 10, 2020.

Based on the above, the possibility exists that previously undiscovered historical or archaeological resources, including human remains, could be uncovered during ground-disturbing activities associated with construction of the proposed project. Therefore, the project could result in a ***potentially significant*** impact with respect to causing a substantial adverse change in the significance of a unique historical or archaeological resource pursuant to Section 15064.5 and/or disturbing human remains.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

V-1. *If any potentially historic resources, prehistoric or historic artifacts, or other indications of cultural deposits, such as historic privy pits or trash deposits, are found once ground disturbing activities are underway, all work within the vicinity of the find(s) shall cease, the find(s) shall be immediately evaluated by a qualified archaeologist, and the City's Planning Department shall be notified of the find(s). If the find is determined to be a historical or unique archaeological resource, as determined by the qualified archeologist, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available (CEQA Guidelines Section 15064.5). Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place (Public Resources Code Sections 21083 and 21087).*

The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.

V-2. *In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the Coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 48 hours after notification by the Native American Heritage Commission, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the landowner, then the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further*

disturbances. If human remains are encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the City of Pacifica Planning Department.

The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.

VI. ENERGY. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	✖	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	✖	☐

Discussion

a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2022 California Green Building Standards Code (CALGreen Code) and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the proposed project's potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The 2022 CALGreen Code is a portion of the CBSC which became effective on January 1, 2023.[12] The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CALGreen standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' MWELO, or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Incentives for installation of electric heat pumps, which use less energy than traditional HVAC systems and water heaters;
- Required solar PV system and battery storage standards for certain buildings; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

It should be noted that the proposed project would not include new gas service connections within the proposed buildings. As such, natural gas appliances would not be used within the proposed structures.

[12] California Building Standards Commission. *California Green Building Standards Code*. 2019.

Building Energy Efficiency Standards

The 2022 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2019 Building Energy Efficiency Standards. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high-performance attics and walls. In addition, the Building Energy Efficiency standards require residential buildings that are three stories or less be developed with the solar panels.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, PG&E would provide electricity to the project site. Pacifica also has partnered with Peninsula Clean Energy (PCE), a Community Choice Aggregation, which allows the purchase of electricity from renewable sources through PG&E infrastructure.[13] Energy use associated with operation of the proposed project would be typical of residential and commercial uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the

[13] City of South San Francisco. *Community Choice Energy*. Available at: https://www.ssf.net/departments/city-manager/sustainability/community-choice-energy#:~:text=South%20San%20Francisco%20has%20joined,instead%20of%20going%20through%20PG%26E. Accessed June 2021.

proposed project would result in transportation energy use associated with vehicle trips generated by future tenants of the proposed residences as well as employees and customers of the proposed commercial component.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the CALGreen Code Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project by PG&E would comply with the State's Renewables Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 60 percent by 2030. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

In addition, future residents/commercial tenants would have access to electricity generated from renewable sources through PCE. Even if customers choose to opt out of PCE, the electricity supplied by PG&E would comply with the State's RPS. Furthermore, the proposed project would include the use of solar panels, as required by the Building Energy Efficiency Standards. Based on applicant provided information, the project would produce approximately 46 kilowatt-hours (kWh) of on-site renewable energy per day. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as discussed in Section XVII, Transportation, of this IS, the project site is located in an urban area with access to several public transit lines. Transit would provide access to several grocery stores, restaurants, banks, and schools within close proximity to the project site. The site's access to public transit and proximity to such uses would reduce project-related vehicle miles traveled (VMT) and, consequently, fuel consumption associated with the proposed project, thereby providing for increased pedestrian connectivity with the surrounding area and resulting in reduced vehicle use.

Conclusion

Based on the above, construction and operations of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

VII. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	✖	☐
ii. Strong seismic ground shaking?	☐	☐	✖	☐
iii. Seismic-related ground failure, including liquefaction?	☐	✖	☐	☐
iv. Landslides?	☐	✖	☐	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	✖	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	✖	☐	☐
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	✖	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	✖
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	✖	☐	☐

Discussion

The following discussion is based on a Geotechnical Investigation prepared for the proposed project by GeoForensics, Inc.,[14] a Geotechnical Peer Review performed by ENGEO, Inc.,[15] and GeoForensics, Inc.'s Response to Geotechnical Peer Review, dated April 30, 2020 (see Appendix B).[16] It should be noted that, due to the nature of soils and the scale of geologic time, the underlying assumptions and on-site soils would not have changed between the preparation of the report and the publishing of this IS. In addition, grading or soil import activities have not occurred on-site since preparation of the Geotechnical Investigation. As such, the Geotechnical Investigation would still apply to the currently proposed project.

The Geotechnical Investigation focused in the northern portion of the project site, because development would not occur in the southern portion of the site, and the proposed off-site improvements are located in an area which has been previously deemed acceptable for development to enable construction of the Pacifica Community Center.[17]

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[14] GeoForensics, Inc. *Geotechnical Investigation for Proposed New Townhouse Complex and Commercial Building.* January 5, 2016.

[15] ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.

[16] GeoForensics, Inc. *Crespi Drive Property, 570 Crespi Drive, Pacifica, California, Response to Geotechnical Peer Review*. April 30, 2020.

[17] U.S. Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed June 2021.

a.i-ii. According to the Geotechnical Investigation, the greater San Francisco Bay Area is recognized by geologists and seismologists as one of the most active seismic regions in the United States. Several major fault zones pass through the Bay Area in a northwest direction which have produced approximately 12 earthquakes per century strong enough to cause structural damage. The faults causing such earthquakes are part of the San Andreas Fault System, a major rift in the earth's crust that extends for at least 700 miles along western California. The San Andreas Fault System includes the San Andreas, Hayward, and Calaveras Fault Zones.

The Geotechnical Investigation determined that the lack of mapped active fault traces through the site suggest that a low potential for primary rupture due to fault offset on the property. Nonetheless, given the vicinity of the project site to the San Andreas Fault System, the project site could be subject to strong ground shaking due to a major earthquake in one of the above-listed fault zones.

However, the proposed project would be designed in accordance with the adopted edition of the CBSC requirements in place at the time of building permit application. Structures built according to the seismic design provisions of current building codes should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural damage. Given the project's adherence to the CBSC requirements, the proposed project would not expose people or structures to substantial adverse effects including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map, or strong seismic ground shaking. Therefore, the proposed project would have a ***less-than-significant*** impact.

a.iii-iv. c. The proposed project's potential effects related to liquefaction, landslides, lateral spreading and subsidence/settlement are discussed in detail below.

Liquefaction

Liquefaction most commonly occurs during earthquake shaking in loose, fine sands and silty sands associated with a high ground water table. Based on liquefaction susceptibility mapping by U.S. Geological Survey, the project site is mapped in an area of moderate susceptibility. In addition, the State of California maps the site within a liquefaction zone (Montara Mountain Quadrangle, 2019).[18] However, per the Geotechnical Investigation, loose, fine, and/or silty sands were not identified in the upper 11 feet of on-site soils. Although some loose sand deposits exist on the site, such deposits are not water-saturated, and are therefore unlikely to be subject to liquefaction.

Although liquefaction is unlikely to have a significant effect on the subject property, a rigid foundation is required to minimize any potential movements. Therefore, without implementation of mitigation, a potentially significant impact could occur related to damages or collapse due to liquefaction.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site and the surrounding area are generally level. Therefore, according to the Geotechnical

[18] ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.

Investigation, the hazard due to large-scale seismically-induced land sliding is relatively low.

Lateral Spreading

Lateral spreading is associated with terrain near free faces such as excavations, channels, or open bodies of water. Spreading may occur when a weak layer of material, such as a sensitive silt or clay, loses shear strength as a result of ground shaking. Such conditions were not encountered on the proposed building site. Therefore, the hazard due to lateral spreading is considered very low based on the Geotechnical Investigation.

Subsidence/Settlement

Ground subsidence may occur when poorly consolidated soils densify as a result of earthquake shaking. Because the project site is underlain at shallow depths by resistant materials, the hazard due to ground subsidence is considered to be low. According to GeoForensics, based on preliminary civil plans, up to six feet of fill is proposed at the site, which is likely to result in approximately 9.5 inches of total settlement. However, due to the seismicity of the area, the potential exists for subsidence and settlement to occur within the project site.

Conclusion

Based on the above discussion, the proposed project would not result in potential hazards or risks related to landslides or lateral spreading. However, the project would be subject to potential adverse effects related to liquefaction and/or subsidence/settlement. Without implementation of the recommendations included in the Geotechnical Investigation, the project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. Thus, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-1. *All grading and foundation plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the Director of Public Works/City Engineer, Chief Building Official, and a qualified Geotechnical Engineer prior to issuance of a grading or building permit to ensure that all geotechnical recommendations specified in the Geotechnical Investigation, dated January 2016, and the Response to Geotechnical Peer Review, dated April 30, 2020, prepared for the proposed project by GeoForensics, Inc. are properly incorporated and utilized in the project design.*

b. Issues related to erosion and degradation of water quality during construction are discussed in Section X, Hydrology and Water Quality, of this IS, under question ‘a’. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil. Thus, a ***less-than-significant*** impact would occur.

d. The Geotechnical Investigation included the testing of soil samples to measure moisture content plasticity, and consolidation. Plasticity Index testing performed on a sample of the

site near surface materials, which consisted of organic soils, produced a Plasticity Index result of 210. Typically, a plasticity index of greater than about 30 correlates to a highly expansive soil. However, the testing of highly organic soils has a tendency to produce unusual test results. Nonetheless, the project site could still consist of potentially expansive soils. Therefore, a ***potentially significant*** impact could occur related to being located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, thereby creating substantial direct or indirect risks to life or property.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-2. Implement Mitigation Measure VII-1.

e. Sewer service for the proposed project would be provided by the City. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, ***no impact*** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

f. The City's General Plan does not identify the presence of any paleontological or unique geological resources within the City limits. As determined by the NWIC, areas surrounding the project site have been disturbed in the past, and the likelihood of discovering paleontological resources is low. Nonetheless, the potential exists that excavation and construction on the project site could encounter previously unknown paleontological resources. Thus, if discovered during ground disturbing activities, the project could directly or indirectly destroy a unique paleontological resource or unique geologic feature and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-3. In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall immediately halt and a qualified paleontologist shall be procured to evaluate the discovery for the purpose of recording, protecting, or curating the discovery as appropriate. The qualified paleontologist shall provide the City of Pacifica Planning Department with a report detailing the findings and method of curation or protection of the resources for review and approval by City Planning staff prior to recommencing construction.

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	✖	☐	☐	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	✖	☐	☐	☐

Discussion

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (i.e., electricity services), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

The proposed project is located within the jurisdictional boundaries of BAAQMD. While updated CEQA Guidelines have not yet been released, on April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted proposed CEQA Thresholds for Evaluating the Significance of Climate Change Impacts from Land Use Projects and Plans.[19] The updated GHG thresholds address more recent climate change legislation, including SB 32, and provide qualitative thresholds related to Buildings and Transportation.

GHG emissions resulting from construction and operation of the proposed project were modeled with CalEEMod using the same assumptions as discussed in Section III, Air Quality, of this IS. All modeling outputs are included in the Appendix A to this IS. According to the CalEEMod results, operations of the proposed project would result in total annual GHG emissions of 359 $MTCO_2e$/yr (see Appendix A). Based on the BAAQMD threshold for AB 32 of 1,100 $MTCO_2e$/yr and the adjusted threshold of 660 $MTCO_2e$/yr for SB 32, the proposed project would not be anticipated to exceed either threshold.

[19] Bay Area Air Quality Management District. *CEQA Thresholds and Guidelines Update.* Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed June 2022.

However, as noted previously, the applicable BAAQMD thresholds of significance for GHG emissions are qualitative, and the foregoing information is provided for disclosure purposes only. According to the BAAQMD's thresholds of significance, in order to find a less-than-significant GHG impact, projects must include, at a minimum, the following project design elements:

- The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development);
- The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines;
- The project will achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA; and
- The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

The proposed project may not comply with the foregoing design features and, as a result, a potentially significant impact could occur. Therefore, construction and operation of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, impacts related to GHG emissions and global climate change could be cumulatively considerable and considered ***potentially significant***.

Further analysis of the above impacts will be included in the Greenhouse Gas Emissions chapter of the 570 Crespi Drive Project EIR.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	✖	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	✖	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	✖	☐	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	✖
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	✖	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	✖	☐	☐
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	☐	☐	✖	☐

Discussion

a. Due to the limited timeline, construction activities associated with the proposed project are not considered a “routine” use. Nonetheless, hazards related to construction activities and construction materials are discussed further under question ‘b’.

Future operations on the project site could involve the use of common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount that could reasonably be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

b. The following discussion provides an analysis of potential hazards related to the proposed construction activities and existing on-site conditions.

Construction Activities

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and the use of other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction.

However, the project contractor would be required to comply with all California Health and Safety Codes and local City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Thus, construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Existing On-Site Conditions

The project site was previously developed with a single-family residence and a mechanic shop. Although not documented at the project site, activities within the project site may have included the use of fuels, coolants, or other chemicals associated with the mechanic shop. Operations associated with the mechanic shop could result in concentrations of residual chemicals being present in the near surface soil if use or storage of chemicals has occurred.

Upon development of the project, the northern portion of the site would primarily be covered by pavement and other impervious surfaces, as well as by up to six feet of fill, thereby limiting future upset of on-site soils. As a result, exposure to hazardous materials associated with potentially contaminated soils during project operations are not a concern.

Although not anticipated, issues related to contaminated soils could pose a risk to construction workers during ground disturbing activities. Therefore, in an abundance of caution, analysis of on-site soils would be required in order to ensure that any existing soil contaminant concentrations are below the direct exposure Environmental Screening Levels for residential developments, which measures potential hazards to human health. If hazardous materials/contaminated soils are identified on-site, such soils would be removed from the site and hauled to an appropriate disposal facility. The proposed project would be required to comply with the regulations set forth by 22 CCR Section 66263, Standards Applicable to Transporters of Hazardous Waste, which requires transporters of hazardous materials to ensure that releases of hazardous wastes into the environment would not occur, including the discharge of hazardous wastes into soils, drainage systems, and surface and ground water systems. 22 CCR Section 66263.16 requires that each truck, trailer, semitrailer, vacuum tank, cargo tank, or container used for shipping hazardous waste be designed and constructed, and their contents so limited, that under conditions normally incident to transportation, releases of hazardous wastes to the environment would not occur. Hazardous waste containers are required to be free from leaks and all discharge openings are required to be securely closed during operation. In addition, Section 66263.31 requires transporters of hazardous materials to clean up any hazardous waste discharge that occurs during transportation to the extent that hazardous waste discharge no longer presents a hazard to human health or the environment. Compliance with the aforementioned State regulations would ensure that, should contaminated soils be identified on-site, the removal of such soils would not result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials.

Conclusion

Based on the above, although evidence of contamination does not exist, past activities on-site associated with the mechanic shop could have resulted in soil contamination within the project site. Therefore, the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions

involving the likely release of hazardous materials into the environment and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-1. *Prior to initiation of grading, excavation, or other ground-disturbing activities on the northern portion of the project site, the project applicant shall complete an analysis of on-site soils to determine whether substantial concentrations of soil contaminants are present above the applicable direct exposure Environmental Screening Levels (ESLs) set by the Regional Water Quality Control Board. If contaminants are not detected above applicable ESLs, then further mitigation is not required. If contaminants are detected above the applicable ESLs, then the soils shall be remediated by off-hauling to a licensed landfill facility. Such remediation activities shall be performed by a licensed hazardous waste contractor (Class A) and contractor personnel that have completed 40-hour OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and overseen by the San Mateo County Environmental Health Services Division. The results of soil sampling and analysis, as well as verification of proper remediation and disposal, shall be submitted to the City of Pacifica Planning Department for review and approval.*

c. The project site is located approximately 600 feet, or 0.12-mile, northwest of Cabrillo Elementary School. As discussed above, the proposed operations would not include the use, disposal, or generation of substantial amounts of hazardous materials. Any hazardous materials associated with cleaning supplies or household materials would be regulated, used, and disposed of according to direction. However, as noted above, previous activities within the project site may have included the use of fuels, coolants, or other chemicals associated with the mechanic shop. Residual chemicals have the potential to be present in the near surface soil. Thus, the project site is located within one-quarter mile of a school and, as a result, the project could create hazardous emissions or handle hazardous materials, substances, or waste and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-2. *Implement Mitigation Measure IX-1.*

d. Government Code Section 65962.5 requires the California Environmental Protection Agency to annually develop an updated Cortese List. The project site is not located on the Department of Toxic Substances Control's (DTSC's) Hazardous Waste and Substances Site List, which is a component of the Cortese List.[20] In addition, the project site is not located on any of the other components of the Cortese List (i.e., the list of leaking

[20] California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=570+Crespi+Drive%2C+Pacifica%2C+CA. Accessed June 2021.

underground storage tank sites from the State Water Resources Control Board's (SWRCB's) GeoTracker database, the list of solid waste disposal sites identified by the SWRCB, and the list of active Cease and Desist Orders [CDO] and Cleanup and Abatement Orders [CAO] from the SWRCB).[21] Thus, the project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed project would have ***no impact*** with respect to being located on a hazardous materials site.

e. The nearest airport relative to the project site, San Francisco International Airport, is located approximately five miles east of the site. In addition, the project site is located approximately nine miles north of Half Moon Bay Airport. Per the Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport (SFO Plan), the project site does not lie within designated Safety Compatibility Zones or forecasted noise contours for the airport.[22] According to the San Mateo County Comprehensive Airport Land Use Compatibility Plan (ALUCP), the site is not located within an Airport Safety Zone for Half Moon Bay Airport, and, thus, would not be significantly affected by the airport.[23] Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area, and a ***less-than-significant*** impact would occur.

f. During operation, the proposed project would provide adequate access for emergency vehicles consistent with California Fire Code requirements and would not interfere with potential evacuation or response routes used by emergency response teams. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. The California Fire Code also requires that all fire service features be installed on the site, including but not limited to fire lanes, before building construction can begin. In addition, the proposed project would not substantially alter the existing circulation system in the surrounding area. As noted in Section XVII, Transportation, of this IS, the proposed project would provide adequate sight distance at the proposed access points at Crespi Drive and would generate minimal traffic. However, according to the North Country Fire Authority (NCFA), the required access of 26 feet would not be met with the proposed site plan. As a result, the proposed project could have a ***potentially significant*** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-3. *Prior to the issuance of a building permit, the project shall demonstrate compliance with the 26-foot access road width, or obtain Fire Marshall approval of an Alternative Methods and Materials request by the NCFA to deviate from the 26-foot access road width requirement for the Project.*

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21 California Environmental Protection Agency. *Cortese List Data Resources*. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed December 2022.

22 City/County Association of Governments of San Mateo County, California. *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport.* July 2012.

23 San Mateo County. *Comprehensive Airport Land Use Compatibility Plan.* December 1996.

g. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS. As noted therein, the project site is not located within or near a Very High Fire Hazard Severity Zone.[24] The project site is located within an urbanized area of the City of Pacifica, is surrounded by existing development, and is not located in or near a State Responsibility Area. While the project site is located among a few trees present on the site, some trees and shrubs would be removed entirely, and the remaining would be maintained according to City procedures. In addition, the new development that would be located on Parcel 1 would be consistent with the existing General Plan MUC land use designation; thus, buildout of Parcel 1 with residential and commercial uses and associated wildfire risk has been considered by the City. With respect to Parcel 2, the proposed project would include off-site improvements related to the construction of a parking lot. As discussed further in Section XX, Wildfire, of this IS, such paving activities would remove vegetation from Parcel 2, therefore reducing any potential wildfire hazards on-site. Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

[24] California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.

X. HYDROLOGY AND WATER QUALITY. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	✖	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	✖	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	✖	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	✖	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	✖	☐
iv. Impede or redirect flood flows?	☐	☐	✖	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	✖	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	✖	☐	☐

Discussion

a,e. During the early stages of construction activities, topsoil would be exposed due to grading of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures or new landscaping, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality. The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres per the General Construction Permit. Because construction activities on the northern portion of the project site and the off-site improvement area would disturb greater than one acre of land, construction activities would be subject to San Mateo County Municipal Regional Stormwater Permit requirements. The San Mateo Countywide Pollution Prevention Program provides a list of construction BMPs with which all projects involving construction within the County are required to comply.[25] Should the project applicant fail to implement best management practices (BMPs), pollutants from construction activities could runoff into local waterways and degrade downstream water quality, particularly during heavy winter rain events.

Following completion of project buildout, the site would be largely covered with impervious surfaces and landscaped areas, and topsoil would no longer be exposed. As such, the

[25] City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *Construction Best Management Practices.* Available at: http://www.cityofpacifica.org/depts/planning/stormwater_compliance/default.asp. Accessed January 4, 2019.

potential for impacts to water quality would be reduced. In addition, as discussed in further detail below, the proposed project would include a series of bioswales on the western and eastern boundaries of the site that would treat stormwater from all on-site impervious areas prior to discharge into the vacant land to the south or into the City's stormwater drainage system.

While implementation of the above would reduce impacts to water quality standards or waste discharge requirements, if the project applicant fails to implement appropriate construction BMPs or implement stormwater requirements, the proposed project could violate water quality standards or waste discharge requirements, substantially degrade water quality, or result in a conflict with a water quality control plan. As such, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

X-1. *During construction, the contractor shall implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable, which may include but are not necessarily limited to the following practices, or other BMPs identified in the California Stormwater Quality Association (CASQA) Construction BMP Handbook and in the City's Municipal Regional Permit for stormwater discharges:*

- *Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be employed to control erosion from disturbed areas;*
- *Inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways shall be covered or treated with nontoxic soil stabilizers;*
- *Exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways shall be enclosed or covered;*
- *The contractor shall ensure that no earth or organic material will be deposited or placed where such materials may be directly carried into a stream, marsh, slough, lagoon, or body of standing water;*
- *The following types of materials shall not be rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water; and*
- *Grass or other vegetative cover shall be established on the construction site as soon as possible after disturbance.*

The applicable BMPs shall be included via notation on the project Improvement Plans for review and approval by the City Engineer prior to issuance of a grading, excavation, or building permit.

X-2. *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall execute and record a Maintenance Agreement addressing future maintenance of the stormwater*

treatment measures required to comply with Provision C.3 of the Municipal Regional Permit. The Maintenance Agreement shall be subject to review and approval by the City Engineer and the City Attorney's Office.

X-3 *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall install all required stormwater treatment measures, and demonstrate full compliance with the stormwater treatment plans prepared for the proposed project. Evidence of such shall be submitted to the City Engineer for review and approval.*

b. The proposed project would receive water service from the NCCWD. The NCCWD does not currently rely on groundwater wells for water supply.[26] As such, groundwater supplies would not be used to serve the proposed project. Given that only the northern portion of the 1.68-acre project site would be developed, the impervious surfaces created by the project would not substantially interfere with infiltration of stormwater into local groundwater. Furthermore, the project would limit hardscape and use pervious pavement treatments, which would allow for natural infiltration of stormwater. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be ***less than significant***.

c.i-iii. All municipalities within San Mateo County (and the County itself) are required to develop surface water control standards for new development projects to comply with Provision C.3 of the RWQCB Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit order No. R2-2015-0049. The San Mateo Countywide Water Pollution Prevention Program developed a C.3 Stormwater Technical Guidance document for implementing the RWQCB Municipal Regional Stormwater NPDES Permit C.3 requirements, known as the C.3 Standards.[27] The City of Pacifica has adopted the County C.3 Standards as part of the City's NPDES General Permit requirements, which require new development and redevelopment projects that create or alter 10,000 or more sf of impervious area to contain and treat the design volume of stormwater runoff from the project site. Given that the proposed project would create more than 10,000 sf of impervious area, the project would be considered a C.3-regulated project.

In accordance with storm water control and water quality standards, the proposed impervious surfaces would drain to vegetated areas and then be conveyed to the rear of the property. In addition to vegetated swales, the site design measures include bioretention swales, pervious pavements and vegetated swales. It has been determined that the rear open space has a storage capacity of approximately 23,962.8 cubic feet (to elevation 10.0), which exceeds the required 100-year event storage capacity for the proposed improvement.

A Stormwater Management Plan (SWMP) has been prepared for the proposed project (see Figure 17). Per the SWMP, the project site and off-site improvement area would be divided into eight drainage management areas (DMAs). Four of the DMAs would direct runoff to a series of bioswales, one would direct runoff to a bioretention basin, and three would be self-treating areas.

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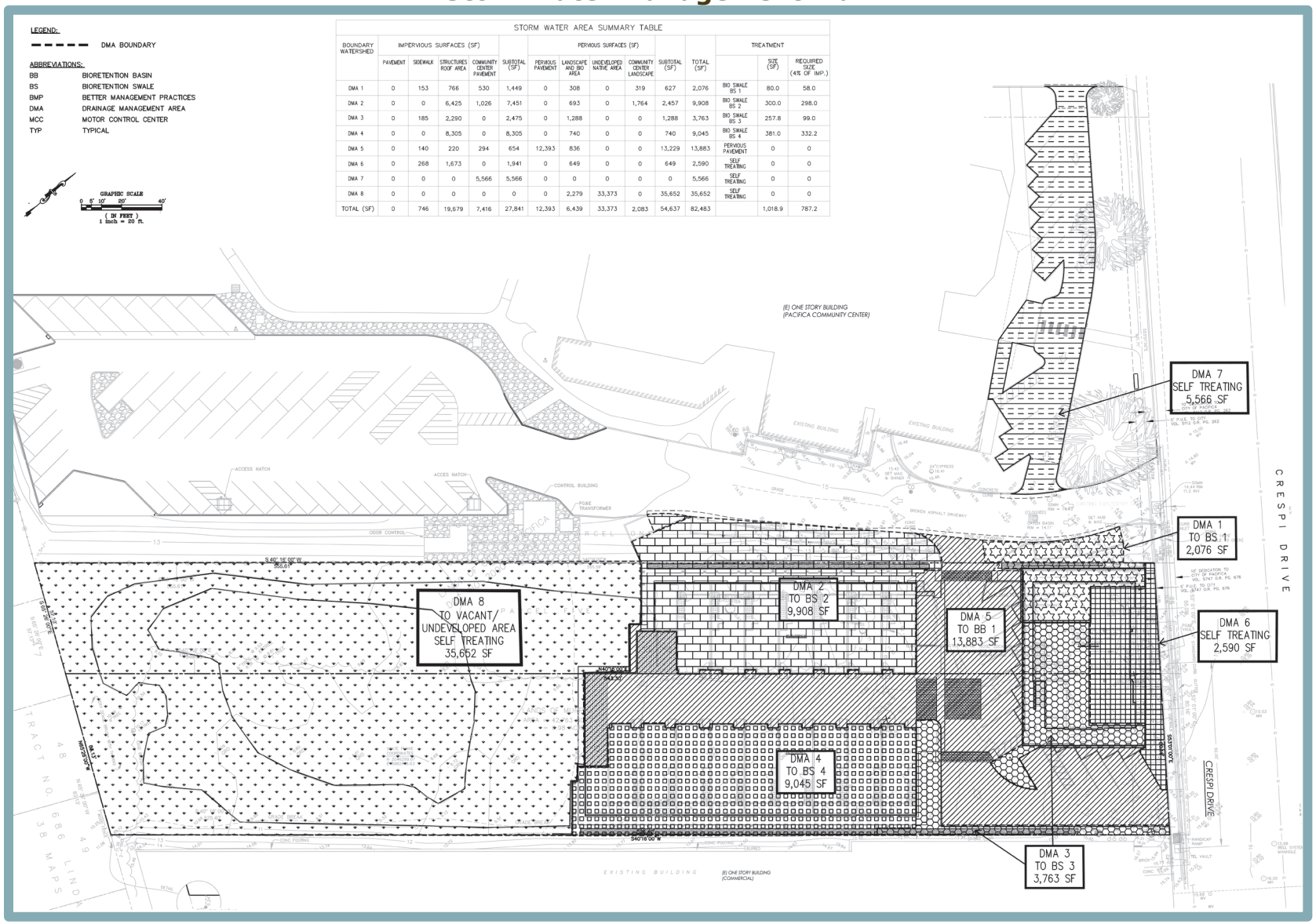
[26] North Coast County Water District. *20-Year Long-Term Water Master Plan.* February 2016.

[27] City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *C.3 Stormwater Technical Guidance.* June 2016.

Figure 17
Stormwater Management Plan



Per Section 6-12.207 of the Municipal Code, prior to issuance of a building permit, the City of Pacifica requires the applicant submit a complete checklist provided by the City to the City Engineer to ensure compliance with the requirements of NPDES Permit No. CAS612008. The design, construction, operation, and maintenance of the proposed stormwater system would need to be addressed in a final SWMP to be submitted to the City of Pacifica in accordance with the stormwater management requirements set forth in the City's Municipal Code. The final design of the proposed drainage system would be reviewed and approved by the City of Pacifica, which would ensure that the proposed drainage system complies with all applicable regional and local standards and requirements with respect to incorporating sufficient permanent stormwater treatment control BMPs.

Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. Thus, a ***less-than-significant*** impact would occur.

c.iv. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map number 06081C0126F, the project site is located within the Special Flood Hazard Zone AH, which is considered a 100-year flood plain.

The City of Pacifica has established a flood plain elevation of 14.0 feet above mean sea level. Accordingly, all living space within the City must be designed a minimum of one foot above the flood plain elevation (i.e., 15 feet). Per the Boundary and Topographic Survey conducted for the project site, the development area currently has an elevation ranging from 10.69 to 16.55 feet above mean sea level. During the grading process, approximately 2,400 cubic yards of soil would be imported to ensure that all proposed structures have a living space no lower than 15 feet above mean sea level.

In addition, as discussed above, all runoff flowing through the storm drains within the site would divert runoff into bioswales proposed on the western and eastern boundaries of the site, or be directed to a bioretention area in the southeast corner of the project site. As a result, runoff would not accumulate and/or flood on-site or off-site.

Therefore, development of the proposed project would not impede or redirect flood flows, and a ***less-than-significant*** impact would occur.

d. Tsunamis are defined as sea waves created by undersea fault movement as a result of an earthquake beneath the sea floor. The California Department of Conservation maintains Tsunami Inundation Maps for most populated areas along the California coastline. The maps are created by combining inundation results for a variety of different seismic source events. As such, the maps represent a worse-case scenario. According to the Tsunami Inundation Map for the Montara Mountain Quadrangle, the project site is located in a Tsunami Inundation Area.[28] However, the proposed project would not increase exposure of the project site or neighboring sites to impacts from a tsunami. Additionally, the built portion of the project site would be constructed above the base flood elevation. The project site and surrounding area do not provide storage for hazardous

[28] California Department of Conservation. *Tsunami Inundation Map for Emergency Planning, Montara Mountain Quadrangle.* June 15, 2009.

materials. Furthermore, residential and commercial land uses, such as the proposed project, are not typically associated with the routine use of hazardous materials. As a result, even though the project site is located within a Tsunami Inundation Area, implementation of the proposed project would not result in the release of pollutants and/or hazardous materials due to project inundation.

A seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir, whose destructive capacity is not as great as that of tsunamis. Seiches are known to have occurred during earthquakes, but none have been recorded in the Bay Area. The project site is located approximately 3.2 miles east of the nearest closed body of water, San Andreas Lake, and, thus, would not be expected to be at risk of inundation from seiche.

Based on the discussion above, the proposed project would not pose a risk related to the release of pollutants due to project inundation caused by flooding, tsunami or seiche, and a ***less-than-significant*** impact would occur.

XI. LAND USE AND PLANNING. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	✖	☐
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	✖	☐

Discussion

a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. Currently, the project site is bordered by existing single-family residential development to the south, the Pacifica Community Center to the west, Ocean View Senior Apartments and commercial businesses to the north, and an elementary school and commercial businesses to the east. The proposed residences and commercial space would be consistent with the scale, type, and intensity of the existing development in the project area. In addition, the project would not isolate an existing land use. Furthermore, the proposed off-site improvements would consist of minor upgrades that are consistent with the development type and scale of the existing Pacifica Community Center. As such, the proposed project would not physically divide an established community, and a ***less-than-significant*** impact would occur.

b. City approval of a General Plan Amendment would be required to redesignate Parcel 2from the current General Plan land use designations (Public and Semi-Public, and Park) to MUC, which would be consistent with the existing land use designation of Parcel 1. As such, the proposed General Plan Amendment is intended to guarantee consistency throughout the entire project site. The proposed project would adhere to all requirements set forth in the City of Pacifica Municipal Code Section 9-4.1101, which regulates development in the C-2 zoning area. The applicability of the San Mateo County CMP LOS requirements is addressed in the Transportation section of this IS. Thus, the design and intended use of the proposed structures would conform with the type and intensity of uses anticipated for the site in the General Plan.

The project would include a Rezoning from M-1 to C-2 and a Zoning Text Amendment to allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. However, the Rezoning and Zoning Text Amendment would not result in any significant environmental impacts on the project site or surrounding area, or conflict with any plans or policies adopted for the purpose of avoiding an environmental effect because the types of uses and building forms allowed would remain consistent with the existing C-2 zoning standards.

Because development of Parcel 1 would be consistent with the City's MUC land use designation, the type and intensity of the proposed uses has been generally anticipated by the City. In addition, the General Plan promotes the conservation of water and energy resources. Compliance with the City's water quality standards, as well as implementation of energy reduction strategies, on-site renewable energy production, and water conservation strategies would ensure that the project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, as discussed throughout this IS, the proposed project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level

by the mitigation measures provided herein. Therefore, a ***less-than-significant*** impact would occur.

XII. MINERAL RESOURCES. *Would the project:*		Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	✖
b.	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	✖

Discussion

a,b. The State Division of Mines and Geology indicates that the project site does not contain any identified mineral resources of regional or Statewide significance (Mineral Resource Zone 2).[29] The adopted General Plan recognizes the existence of mineral resources at the Rockaway Quarry and Picardo Ranch (now Millwood Ranch) and cites unmined limestone deposits underlying development elsewhere in the City, but does not specifically refer to this site. Therefore, construction of the proposed project would not result in the loss of any known mineral resources or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, and ***no impact*** would occur.

[29] State of California. Division of Mines and Geology. *Generalized Mineral Land Classification Map of the South San Francisco Bay Production—Consumption Region*. Published 1996.

XIII. NOISE. *Would the project result in:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	✖	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	✖	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	✖	☐

Discussion

a. The following discussion is based on an Environmental Noise Assessment prepared for the proposed project by Saxelby Acoustics (see Appendix C).[30] The report analyzed construction noise and traffic noise level increases at the project site in comparison to the City's exterior and interior noise level standards. It should be noted that, because traffic patterns in the area have decreased, and because the proposed uses and unit counts have not changed, the analysis and conclusions would represent a conservative analysis.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. In the vicinity of the project site, the nearest sensitive receptors include the existing single-family residences to the south, Pacifica Community Center to the west, and Ocean View Senior Apartments to the north. Additionally, the Cabrillo Elementary School is located 0.12-mile east of the site.

Existing Noise Environment

Per the Environmental Noise Assessment, the existing noise environment in the project area is primarily defined by traffic on SR 1 and Crespi Drive. To determine the existing noise environment at the site, Saxelby Acoustics conducted continuous 24-hour recordings of the sound levels at one location and short-term measurements at two locations in the project vicinity (see Figure 18).

Table 5 below provides summary of the noise measurement results. The results of the measurements summarized in Table 5, are presented in terms of average hourly noise levels (L_{eq}). The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day. The maximum value, denoted L_{max}, represents the highest noise level measured. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period. All noise level values are in decibels (dB).

[30] Saxelby Acoustics LLC. *Environmental Noise Assessment, 570 Crespi Drive.* September 22, 2021.

Figure 18
Noise Measurement Sites

Source: Saxelby Acoustics LLC, 2021.

Table 5
Summary of Existing Background Noise Measurement Data

Site	Date	Average Measures Hourly Noise Levels, dBA						
			Daytime (7:00AM-10:00PM)			Nighttime (10:00PM–7:00AM)		
		L_{dn}	L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
LT-1	4/09/20 – 4/10/20	58	54	51	73	51	45	67
ST-1	4/09/20 – 1:05 PM	N/A	55	44	93	N/A	N/A	N/A
ST-2	4/10/20 – 1:21 PM	N/A	48	47	58	N/A	N/A	N/A

Source: Saxelby Acoustics LLC, 2021.

City Noise Standards

The City of Pacifica General Plan establishes noise thresholds for sensitive receptors in Tables 9-1 through 9-3. Pursuant to Table 9-1, the normally acceptable noise level for multi-family residential land uses is less than 65 dB L_{dn}, and the conditionally acceptable standard ranges from 60 to 70 dB L_{dn}. Table 9-2 of the General Plan establishes that a limit of 45 dB L_{dn} is the limit for the interior of residential environments. Finally, Table 9-3 sets forth the L_{eq} as 50 dBA between 7:00 AM and 10:00 PM (i.e., during the daytime) and 45 dBA from 10:00 PM to 7:00 AM (i.e., during the nighttime).

Criteria for Long-Term Project-Related Noise Level Increases

The Federal Interagency Committee on Noise (FICON) provides guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. Based on the FICON standards, the project would result in a significant impact under the following circumstances:

- Where existing ambient noise levels at sensitive receptors are less than 60 dB L_{dn}, a +5 dB L_{dn} increase is considered significant;
- Where existing ambient noise levels at sensitive receptors range from 60 to 65 dB L_{dn}, a +3 dB L_{dn} increase is considered significant; and
- Where existing ambient noise levels at sensitive receptors are greater than 65 dB L_{dn}, a +1.5 dB L_{dn} increase is considered significant.

Construction Noise

During the construction of the proposed project, heavy equipment would be used for grading, excavation, paving, and building construction, which would temporarily increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. Standard construction equipment, such as graders, backhoes, loaders, and trucks, would be used on-site.

As one increases the distance between equipment, or increases separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of combining separate noise sources. The noise levels from a source decrease at a rate of approximately 6 dB per every doubling of distance from the noise source.

Based on the analysis included in the Environmental Noise Analysis, the loudest phase of construction would occur during pile driving activities, and would generate an average

noise exposure level of 94 dBA L_{eq} at 50 feet. However, as discussed in further detail under question 'b' and as required by Mitigation Measure XIII-2, pile driving shall be prohibited during project construction. The next loudest phase would be site preparation and grading activities, which typically make use of compactors, dozers, and pneumatic tools, are anticipated to be the loudest phases of construction, with an average noise exposure of 83 dBA at a distance of 50 feet. Saxelby Acoustics modeled the noise levels at nearby sensitive receptors using the SoundPLAN noise model. The results of the construction noise analysis are depicted in Figure 19 without pile driving.

Table 6 shows a summary of the noise prediction results for each phase of project construction as measured from Site LT-1. As shown in Table 6, the proposed project would generate construction noise levels ranging between 31 and 66 dBA L_{eq} at the nearest sensitive receptors. Existing ambient noise levels were found to be between 52 and 58 dBA L_{dn} in the vicinity of the project site. Therefore, project construction could result in a maximum increase in noise of up to 9 dBA above existing ambient noise levels. The increase of 9 dBA would not exceed the Caltrans 12 dBA increase criteria.

Additionally, noise associated with construction activities would occur intermittently, and would be limited to the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM on Saturdays and Sundays per Section 8-1.08 of the City's Municipal Code. The City of Pacifica would ensure that project construction complies with Section 8-1.08 of the Municipal Code as a condition of project approval. Furthermore, the City of Pacifica Noise Ordinance exempts construction activities from the noise standards, provided they take place between the specified hours. As a result, a less-than-significant impact would occur during project construction.

Operational Noise

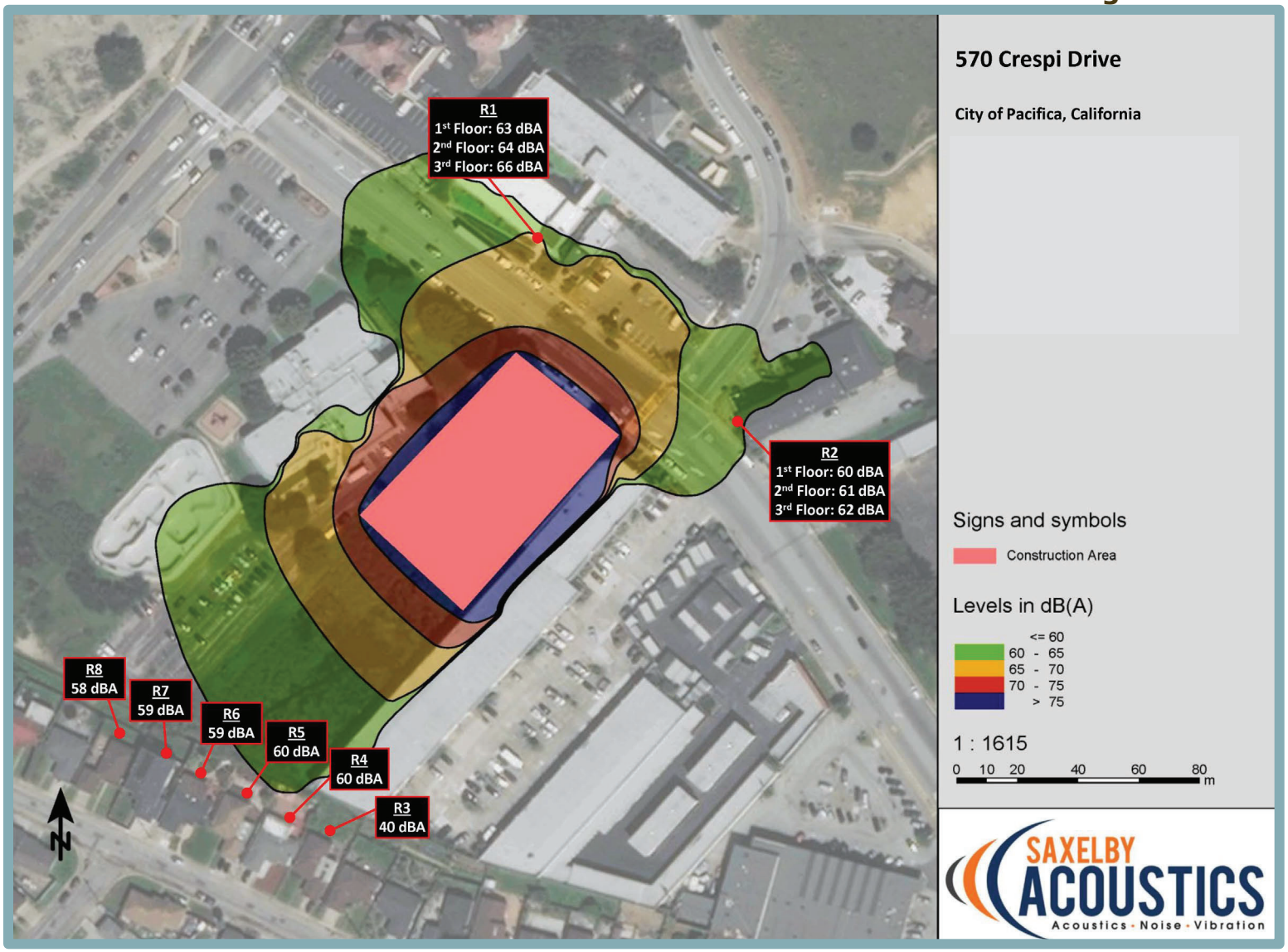
The primary source of operational noise associated with the proposed project would be vehicle traffic on the project site and on the local roadway network.

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were calculated at sensitive receptors for Baseline, Baseline Plus Project, Cumulative, and Cumulative Plus Project conditions using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). Traffic noise levels were predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers, or may be located at distances which vary from the assumed calculation distance. Project trip generation volumes were provided by the project traffic engineer,[31] and truck usage and vehicle speeds on the local area roadways were estimated from field observations.

Table 7 and Table 8 summarize traffic noise levels at the nearest sensitive receptors along each roadway segment in the project area under the aforementioned scenarios.

[31] RKH Civil and Transportation, Inc. *Traffic Impact Analysis, 570 Crespi Drive, Pacifica, California*. November 8, 2021.

Figure 19
Predicted Construction Noise Levels – Without Pile Driving



Source: Saxelby Acoustics LLC, 2021.

Table 6
Construction Noise Levels (dBA)

Equipment	Measured Daytime Noise Level, L_{dn}	Predicted Construction Noise Level, L_{dn}	Change
Site Preparation			
R1 (Residential)	58	66	+8
R2 (Residential)	58	62	+4
R3 (Residential)	52-58	40	+0
R4 (Residential)	52-58	60	+8
R5 (Residential)	52-58	60	+8
R6 (Residential)	52-58	59	+7
R7 (Residential)	52-58	59	+7
R8 (Residential)	52-58	58	+6
Grading			
R1 (Residential)	58	66	+8
R2 (Residential)	58	62	+4
R3 (Residential)	52-58	40	+0
R4 (Residential)	52-58	60	+8
R5 (Residential)	52-58	60	+8
R6 (Residential)	52-58	59	+7
R7 (Residential)	52-58	59	+7
R8 (Residential)	52-58	58	+6
Building Construction			
R1 (Residential)	58	65	+7
R2 (Residential)	58	61	+3
R3 (Residential)	52-58	39	+0
R4 (Residential)	52-58	59	+7
R5 (Residential)	52-58	59	+7
R6 (Residential)	52-58	58	+6
R7 (Residential)	52-58	58	+6
R8 (Residential)	52-58	57	+5
Paving			
R1 (Residential)	58	64	+6
R2 (Residential)	58	60	+2
R3 (Residential)	52-58	38	+0
R4 (Residential)	52-58	58	+6
R5 (Residential)	52-58	58	+6
R6 (Residential)	52-58	57	+5
R7 (Residential)	52-58	57	+5
R8 (Residential)	52-58	56	+4
Architectural Coating			
R1 (Residential)	58	57	+0
R2 (Residential)	58	53	+0
R3 (Residential)	52-58	31	+0
R4 (Residential)	52-58	51	+0
R5 (Residential)	52-58	51	+0
R6 (Residential)	52-58	50	+0
R7 (Residential)	52-58	50	+0
R8 (Residential)	52-58	49	+0

Note: Measurements recorded from Site LT-1.

Source: Saxelby Acoustics LLC, 2021.

Table 7
Baseline* Traffic Noise Level and Traffic Noise Level Increases

Roadway	Segment	Predicted Exterior Noise Level		
		Baseline Conditions	Baseline Plus Project	Change
SR 1	SR 1 North to Reina Del Mar Avenue	69.8	69.9	0.0
SR 1	Reina Del Mar Avenue to Fassler Avenue	72.4	72.5	0.0
SR 1	Fassler Avenue to Crespi Drive	70.2	70.2	0.0
SR 1	Crespi Drive to Linda Mar Boulevard	66.3	66.3	0.0
SR 1	Linda Mar Boulevard to SR 1 South	66.6	66.6	0.0
Reina Del Mar Avenue	SR 1 to Reina Del Mar Avenue East	62.3	62.3	0.0
Fassler Avenue	SR 1 to Fassler Avenue East	61.2	61.3	0.1
Crespi Drive	East of SR 1	62.8	62.9	0.1

* Refer to Section XVII, Transportation, of this IS for additional information regarding the Baseline traffic conditions.

Source: Saxelby Acoustics LLC, 2021.

Table 8
Cumulative Traffic Noise Level and Traffic Noise Level Increases

Roadway	Segment	Predicted Exterior Noise Level		
		Cumulative Conditions	Cumulative Plus Project	Change
SR 1	SR 1 North to Reina Del Mar Avenue	69.9	69.9	0.0
SR 1	Reina Del Mar Avenue to Fassler Avenue	72.5	72.5	0.0
SR 1	Fassler Avenue to Crespi Drive	70.2	70.3	0.0
SR 1	Crespi Drive to Linda Mar Boulevard	66.4	66.4	0.0
SR 1	Linda Mar Boulevard to SR 1 South	66.6	66.6	0.0
Reina Del Mar Avenue	SR 1 to Reina Del Mar Avenue East	62.3	62.3	0.0
Fassler Avenue	SR 1 to Fassler Avenue East	61.3	61.3	0.0
Crespi Drive	East of SR 1	62.7	62.8	0.1

Source: Saxelby Acoustics LLC, 2021.

Per the FICON's criteria for long-term project-related noise level increases, where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels would be considered significant. As

shown in the tables above, the maximum increases in traffic noise at the nearest sensitive receptor is predicted to be 0.1 dBA. Therefore, the proposed project would not result in the generation of a substantial permanent increase in traffic noise levels in the vicinity of the project in excess of standards.

Conclusion

Based on the above, construction and operations of the proposed project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City's General Plan and the Municipal Code. Thus, a ***less-than-significant*** impact would occur.

b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception of the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 9, which was developed by Caltrans, shows the vibration levels that would normally be required to result in damage to structures. As shown in the table, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

The proposed project would only cause elevated vibration levels during construction, as the proposed project would not involve any uses or operations that would generate substantial groundborne vibration. Although noise and vibration associated with the construction phases of the project would add to the noise environment in the immediate project vicinity, construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. The primary vibration-generating activities associated with the proposed project would occur during grading, placement of utilities, and construction of foundations. Table 10 shows the typical vibration levels produced by construction equipment at various distances.

The most substantial source of groundborne vibrations associated with project construction would be the use of pile drivers. If pile driving is not required for project construction, next highest source of groundborne vibration would be the use of vibratory compactors. For the purpose of this analysis, the use of pile drivers and vibratory compactors/rollers are conservatively assumed to be used during construction of the proposed project.

Table 9
Effects of Vibration on People and Buildings

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.

Table 10
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)	PPV at 100 feet (in/sec)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Pile Driving (impact)	0.644	0.228	0.081
Pile Driving (sonic)	0.170	0.060	0.023
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/Roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Saxelby Acoustics LLC, 2021.

Sensitive receptors which could be impacted by construction related vibrations, especially pile driving and vibratory compactors/rollers, are located approximately 50 feet, or further, from typical construction activities. Thus, per the vibration levels shown in Table 10, construction vibrations associated with pile driving could exceed the 0.20 in/sec PPV threshold.

Based on the above, construction of the proposed project could expose people to or generate excessive groundborne vibration or groundborne noise levels associated with the use of pile drivers, and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XIII-1. Pile driving shall be prohibited during construction of the proposed project. Compliance with such shall be ensured by the City of Pacific Planning Division.

c. The nearest airport relative to the project site, San Francisco International Airport, is located approximately five miles east of the site. In addition, the project site is located approximately nine miles north of Half Moon Bay Airport. Per the SFO Plan, the project site does not lie within designated Safety Compatibility Zones or forecasted noise contours for the airport.[32] According to the San Mateo County Comprehensive ALUCP, the site is not located within an Airport Safety Zone for Half Moon Bay Airport, and, thus, would not be significantly affected by the airport.[33] Given that the project site is not located within two miles of a public or private airport, the proposed project would not experience elevated noise levels associated with either airport, and a ***less-than-significant*** impact would occur related to exposing people residing or working in the project area to excessive noise levels associated with airports.

[32] City/County Association of Governments of San Mateo County, California. *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport.* July 2012.

[33] San Mateo County. *Comprehensive Airport Land Use Compatibility Plan.* December 1996.

XIV. POPULATION AND HOUSING. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	✖	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	✖	☐

Discussion

a. The proposed project would include the development of 19 residential units. Using the City of Pacifica average persons per household value of 2.71, the proposed project's direct population growth from the addition of 19 residences would result in approximately 52 new residents.[34] The U.S. Census Bureau estimated the 2023 population of Pacifica to be approximately 36,426.[35] The increase in population associated with the proposed project would constitute a 0.14 percent increase in the City's population. A 0.14 percent increase in population would not be considered substantial growth. The project would not result in any indirect population growth from extension of major infrastructure because, as discussed in Section XIX, Utilities and Service Systems, of this IS, adequate utility infrastructure already exists in the project area to be available to support the proposed project. Finally, considering the proposed project would be consistent with the General Plan land use designation for the site, the population growth that would occur as a result of the project has been previously anticipated by the City and evaluated in the General Plan EIR. Additionally, the potential growth induced by the proposed commercial components of the project is not likely to be significant, given that the project is consistent with what has been anticipated in the General Plan EIR. As a result, the project would have a ***less-than-significant*** impact with respect to substantial unplanned population growth in an area, either directly or indirectly.

b. Parcel 1 is currently undeveloped, and Parcel 2 is not developed with any residential structures. As such, the proposed project would not result in the displacement of any people or housing. In addition, the proposed project would introduce 19 new residential units to the City. Therefore, the proposed project would not be considered to displace substantial numbers of existing people or housing, necessitating the construction of replacement housing, and a ***less-than-significant*** impact would occur.

[34] City of Pacifica. *Pacifica Demographics: 2018.* Available at: https://www.cityofpacifica.org/about/eco_dev/census_facts_2000.asp. Accessed June 2021.

[35] U.S. Census Bureau. *QuickFacts Pacifica city, California*. Available at: https://www.census.gov/quickfacts/fact/table/pacificacitycalifornia/PST045223 . Accessed July 2024.

XV. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	✖	☐
b. Police protection?	☐	☐	✖	☐
c. Schools?	☐	☐	✖	☐
d. Parks?	☐	☐	✖	☐
e. Other Public Facilities?	☐	☐	✖	☐

Discussion

a. In 2003, the cities of Daly City, Brisbane, and Pacifica collaborated to form the NCFA through a Joint Powers Authority agreement. The NCFA provides fire protection and medical emergency services in the City of Pacifica as well as the other two communities. Under the NCFA, fire stations and fire companies are strategically located throughout the three communities, which provide rapid assistance for medical, fire or other hazardous situations. The nearest fire station relative to the project site is the Pacifica Fire Department located at 1100 Linda Mar Boulevard, which is located approximately one mile southeast of the project site. According to the NCFA, each station staffs approximately three personnel with several response vehicles.[36] The target response time for emergencies and non-emergencies within City limits is approximately 6 minutes, 59 seconds. However, the NCFA has an actual response time of approximately four minutes. Due to the close proximity of the station to the project site, response times at the site are expected to be within the targeted response time. In addition, the project would be required to comply with all NCFA standard conditions of approval related to compliance with the California Fire Code and the associated fire prevention and suppression systems including but not limited to fire sprinklers within all buildings.

   Because the NCFA would provide adequate fire protection services to proposed project, and because the proposed project would be required to include adequate fire safety design elements, the project would result in a ***less-than-significant*** impact with respect to the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

b. The Pacifica Police Department provides police protection services throughout the City, and the station is located at 2075 Coast Highway. The Pacifica Police Department has 39 sworn officer positions, which equates to approximately one officer per 1,000 residents.[37] Using the City of Pacifica average persons per household value of 2.71, the proposed project's direct population growth from the addition of 19 residences would result in approximately 52 new residents, which is substantially below the threshold of 1,000 new

[36] Barry Biermann, Deputy Fire Chief, North County Fire Authority. Personal communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. June 4, 2020.

[37] City of Pacifica. *Pacifica General Plan Draft Environmental Impact Report* [pg. 3.12-2]. January 2022.

residents which would require the hiring of a new officer.[38] Thus, the minor population growth associated with the proposed project would not necessitate the hiring of new officers and/or construction of new or expanded facilities. Additionally, the commercial component of the proposed project is located within existing police patrol routes and service areas and would not necessitate the hiring of additional officers or the construction of new police facilities.

Furthermore, the proposed project would be subject to the payment of development impact fees per Chapter 14 of the City's Municipal Code. Development impact fees are used to finance the acquisition, construction and improvement of public facilities needed as a result of new development. Should any new police facilities or staffing be required as a result of the proposed project, the required payment of development impact fees would ensure that such needs are met.

Based on the above, the project would result in a ***less-than-significant*** impact with respect to the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services.

c. The project site is located within the Pacifica School District and the Jefferson Union High School District (JUHSD). The Pacifica School District addresses increased demand for school services within the District through the use of Bond Funds and school district impact fees charged to new development, and implementation of the Facilities Master Plan. Because the proposed project would include 19 residential units, the project applicant would be required to pay the appropriate school district impact fees. Specifically, the project would be required to pay $3.79 per square foot, which is split between the Pacifica School District ($2.27 per square foot) and JUHSD ($1.52 per square foot). It should be noted that Proposition 1A/Senate Bill No. 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act…involving …the planning, use, or development of real property" (Government Code 65996(b)). Satisfaction of the Proposition 1A/Senate Bill No. 50 statutory requirements by a developer is deemed to be "full and complete mitigation."

According to the Pacifica School District, the district currently has a capacity of approximately 3,250 students with a current enrollment of 3,142 students. Development of the proposed project would be limited to a total of 19 residences and, thus, would not generate a substantial number of new students to area schools.[39] For example, the estimated student yield factor for the Pacifica Union School District is 0.5 students/unit.[40] Thus, development of the 19 units would add approximately ten students to the Pacifica School District, which can be accommodated by the current available capacity.

Based on the above, increased demand for school facilities associated with construction of the proposed project would be accommodated by existing schools within the City. Furthermore, the proposed project would comply with Proposition 1A/Senate Bill No. 50 through the payment of school impact fees. As such, the proposed project would not result

[38] City of Pacifica. *Pacifica Demographics: 2018.* Available at: https://www.cityofpacifica.org/about/eco_dev/census_facts_2000.asp. Accessed June 2021.

[39] Heather Olsen, Superintendent, Pacifica School District. Personal Communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. May 27, 2020.

[40] Pacifica School District. *Level I Developer Fee Study for Pacifica School District.* June 14, 2018.

in substantial adverse physical impacts associated with the provision of new or physically altered school facilities and a ***less-than-significant*** impact would occur with respect to schools in the project area.

d. The proposed project would involve the development of 19 residential dwelling units on 1.68 acres of land. The project would not include any dedicated park areas. The project would be subject to Chapter 19, Park Facilities Impact Fee, of the City's Municipal Code, which states the following:

> This chapter is enacted to require the dedication of such funds and/or lands to offset the impact on the need for parks, recreational facilities, and open space created by new residential development which does not require a tentative subdivision or parcel map…
>
> The fees due under this chapter are collected for the acquisition of lands and the construction of improvements and facilities for which the City has established an account, appropriated funds and adopted a proposed acquisition and construction schedule, and shall be determined and become due and payable to the City at the time of the issuance of a building permit for a residential dwelling unit, single-family residence or mobile home space, or for the addition to such of one or more bedrooms.

Therefore, given that the proposed project would be required to pay the applicable park in-lieu fees in order to ensure that sufficient funding is available for Citywide park development, the project would result in a ***less-than-significant*** impact on parks.

e. The City contains two public libraries: the Pacifica-Sharp Park Library and the Pacifica-Sanchez Library. The libraries constitute two branches of the San Mateo County Library system. Per a 1999 Joint Powers Authority agreement, the City is responsible for funding maintenance of the two libraries. The proposed project includes a total of 19 residential dwelling units. Due to the relatively small project size, implementation of the proposed project would not result in a substantial increase in demand for library services, and a ***less-than-significant*** impact would occur in regard to libraries or other public facilities.

XVI. RECREATION. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	✖	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	✖	☐

Discussion

a,b. The proposed project would include development of 19 residential units and commercial space. Recreational or park facilities are not proposed as part of the proposed project. As discussed in Section XV, Public Services, of this IS, the project would be subject to payment of a Park Facilities Impact Fee pursuant to Chapter 19 of the City's Municipal Code. Payment of the Park Facilities Impact Fee would provide funding for future parkland or recreational facilities. Park development in the future would be subject to project-specific review under CEQA. Furthermore, due to the relatively small project size, and the proximity to existing recreational facilities in the City, implementation of the proposed project is not expected to substantially increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Thus, a ***less-than-significant*** impact would occur.

XVII. TRANSPORTATION. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	✖	☐	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	✖	☐	☐	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	✖	☐	☐	☐
d. Result in inadequate emergency access?	✖	☐	☐	☐

Discussion

a. The proposed project would result in an increase in employee vehicle and public vehicle traffic on the street system surrounding the project site. Pursuant to CEQA Guidelines Section 15064.3, determination of traffic impacts is not based on vehicle level of service (LOS). However, the potential remains for the proposed project to result in conflicts with City programs, plans, ordinances, and policies related to transportation facilities, including transit, roadway, bicycle, and pedestrian facilities. Therefore, a ***potentially significant.***

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. The OPR released a Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018, which provides recommendations regarding VMT evaluation methodology, significance thresholds, and screening thresholds for land use projects.[41] While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving. Therefore, pursuant to Section 15064.3(3) of the CEQA Guidelines, a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. Given that the proposed project would result in increased vehicle trip generation on local roadways and increased VMT, further analysis of VMT attributable to the project is required to determine whether the project's increase in VMT would conflict with Section 15064.3(b) of the CEQA Guidelines. Thus, a ***potentially significant*** impact could occur.

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

c,d. The proposed project would include the on-site development of a two-story mixed-use building, two three-story residential buildings, a commercial condominium and 19 residential condominiums, as well as associated surface parking areas, drive aisles, and

[41] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

other improvements. The proposed project would also involve off-site improvements, including the construction of a new driveway and associated parking spaces within the Pacifica Community Center immediately to the west at 540 Crespi Drive.

Due to the increase in vehicle traffic on the surrounding roadway network, the proposed project could cause an increase in traffic-related hazards or affect emergency access in the project area. Therefore, the proposed project could result in a potentially significant impact related to an increase in hazards from design features or incompatible uses, or inadequate emergency access to the project.

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

XVIII. TRIBAL CULTURAL RESOURCES. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	☐	✖	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	✖	☐	☐

Discussion

a,b. Based on a search of the NAHC Sacred Lands File, the project site could contain Tribal Cultural Resources.[42] As a result, information request letters were sent to the Amah Mutsun Tribal Band of Mission San Juan Batista and the Ohlone Indian Tribe; however, responses from the tribes have not been received.

Furthermore, the City of Pacifica has not received requests to be notified of development projects (pursuant to AB 52) from any federally recognized Native American tribes in the project region and, thus, AB 52 project notification letters were not distributed by the City. The City, as a lead agency, has not identified any tribal resources on the site. Prior to the proposed project's resubmittal, in compliance with SB 18, the City of Pacifica sent SB 18 notification letters to all the tribes included on the NAHC's tribal consultation list for San Mateo County. The letters were distributed on November 16, 2021. Requests for consultation were not received.

Considering the construction activity associated with the Pacifica Community Center and the demolition of the previously existing on-site structure, portions of the project site that would be developed as part of the project, including the off-site improvement area, has been previously and recently disturbed. Additionally, recent construction of an equalization basin in the southern portion of 540 Crespi Drive included substantial excavation, and tribal cultural resources were not identified during such ground disturbance. Due to the previous disturbance of the site, the probability of finding tribal cultural resources on the surface of the site is unlikely.

However, the possibility exists that previously undiscovered tribal cultural resources could be uncovered during ground-disturbing activities associated with construction of the proposed project. Therefore, the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource, and a ***potentially significant*** impact could occur.

[42] Native American Heritage Commission. *570 Crespi Drive Project, San Mateo County.* February 28, 2020.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XVIII-1. Implement Mitigation Measures V-1 and V-2.

XIX. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	✖	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	✖	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	✖	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	✖	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	✖	☐

Discussion

a-c. Electricity, telecommunications, water, and sanitary sewer services would be provided by way of new connections to existing infrastructure in the immediate project area. Electricity services for the proposed project would be provided by PG&E. Brief discussions of water, sewer service, stormwater drainage, electrical, and telecommunications that would serve the proposed project are included below. Implementation of the proposed off-site improvements would not affect utility demand.

Water

As noted in Section IX, Hydrology and Water Quality, of this IS, the proposed project would receive water service from the NCCWD. According to the 2020 Urban Water Management Plan (UWMP), the NCCWD is estimated to have sufficient water supplies to serve the City through the year 2045 to accommodate buildout of the General Plan.[43] Considering the proposed project would be consistent with the General Plan land use designation for the site, the increase in water demand associated with buildout of the project site was accounted for by the City.

Furthermore, the UWMP estimates a daily usage of 65 gallons per capita per day (GPCD). As such, the residential component of the proposed project is anticipated to generate a demand of approximately 3,069 gallons per day, or 1.12 million gallons per year (MGY) (53 residents X 57.9 GPCD = 3,069 GPD). Because the tenants of the commercial component of the proposed project are unknown, the number of daily staff and customers which would generate increased demand for potable water is unknown at this time. Nonetheless, for the purposes of this analysis, an average of 20 employees is conservatively assumed. Thus, the commercial component of the proposed project is

[43] North Coast County Water District. *2020 Urban Water Management Plan*. June 2021.

anticipated to generate a demand of approximately 1,158 gallons per day, or 0.42 million MGY (20 staff X 57.9 GPCD = 1,158 GPD). In total, the proposed project is anticipated to generate a water demand of approximately 1.54 MGY.

Per Table 7-4 of the UWMP, in the year 2045, the NCCWD anticipates an excess water supply of 583 MGY, which is enough to accommodate the 1.54 MGY increase associated with development of the proposed project. Accordingly, the proposed project would not require or result in the construction of new water facilities or the expansion of existing facilities, as sufficient water supplies are available to adequately serve the proposed project.

Wastewater

Sewer utilities for the proposed project would be provided by the City of Pacifica. The City's wastewater is treated at the Calera Creek Water Recycling Plant (CCWRP), located approximately 1.28 miles north of the project site. The CCWRP's average discharge is 1.9 million gallons per day (mgd) to Calera Creek, which flows about 0.5-miles through constructed wetlands and ultimately to the Pacific Ocean.[44] The CCWRP was designed to handle an annual average daily wastewater flow of 4.0 mgd, and is anticipated to have enough capacity to accommodate buildout of the General Plan. Considering the proposed project is consistent with the land use designation for the site, the wastewater generation associated with the proposed project has been generally anticipated for the project site and considered in wastewater infrastructure planning efforts.

Furthermore, residents throughout the City are required to pay an annual sewer charge based on water consumption rates for each unit, per Chapter 6 of the City Municipal Code. Such charges would help to ensure that adequate capacity is available to serve the project's demand for services.

Given the remaining available capacity within the wastewater facility, the proposed project would not result in inadequate capacity to serve the project's projected demand in addition to the existing commitments.

Stormwater

As discussed above in Section X, Hydrology, of this IS, stormwater runoff from impervious surfaces associated with the proposed project would be treated on-site prior to discharge into the vacant land to the south or into the City's stormwater drainage system. Implementation of Mitigation Measure X-1 would ensure that BMPs are implemented during construction activities to reduce pollutants in stormwater discharges to the maximum extent practicable. Additionally, because the site has been anticipated for development by the City's General Plan, impacts to stormwater systems resulting from development of the site have been anticipated by the City and analyzed in the General Plan EIR.

Other Utilities

Electricity and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. PG&E would provide electricity services to the project site. The proposed project would not require major

[44] Regional Water Quality Control Board San Francisco Bay Region. *City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County.* Available at: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2017/April/7_ssr.pdf. April 12, 2017.

upgrades to, or extension of, existing infrastructure. Thus, impacts to electricity and telecommunications infrastructure would be less than significant.

Conclusion

Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Furthermore, adequate wastewater capacity would be available to serve the project's projected demand in addition to the CCWRP's existing commitments. Thus, a ***less-than-significant*** impact would occur.

d,e. Solid waste collection services for the City are provided by Recology of the Coast, a Division of Recology. Services provided to the City by Recology include curbside pick-up of garbage, recyclables, and green waste. Solid waste from within the City of Pacific is disposed of at the Ox Mountain Landfill. Per CalRecycle, the Ox Mountain Landfill has 22,180,000 cubic yards of remaining available capacity, or approximately 36.7 percent of the facility's maximum permitted capacity of 60,500,000 cubic yards.[45] The Ox Mountain Landfill is planned for closure in 2034. After the Ox Mountain Landfill ceases operations, either the Los Trancos Canyon Landfill will undergo expansion, or the Apanolio Canyon Landfill will be opened for fill.[46]

The proposed project would generate solid waste associated with construction activities and project operations. Construction debris would be disposed of in accordance with applicable federal, State, and local regulations and standards. All material exported during site preparation and grading activities would be off-hauled to the Ox Mountain Landfill. Considering the relatively small size of the proposed project, as compared to the development of the entire Ox Mountain Landfill service area, sufficient capacity would exist to accommodate the solid waste disposal needs generated by the proposed project.

Based on the above, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. Thus, a ***less-than-significant*** impact would occur.

[45] CalRecycle. *SWIS Facility/Site Activity Details: Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed June 2021.

[46] City of San Mateo. *General Plan Update Environmental Impact Report* [pg 4.11-38]. July 2009.

XX. WILDFIRE. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	✖	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	✖	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	✖	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	✖	☐

Discussion

a-d. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the project site is not located within or near a Very High Fire Hazard Severity Zone.[47] The project site is located within an urbanized area of the City of Pacifica, is surrounded by existing development, and is not located in or near a State Responsibility Area. While the project site is located among a few trees present on the site, some trees and shrubs would be removed entirely, and the remaining would be maintained according to City procedures. In addition, Parcel 1 is consistent with the site's current MUC land use designation. With respect to Parcel 2, which is currently developed with a driveway and roadway to provide access to the Pacifica Community Center parking lot, the proposed General Plan Amendment would ensure consistency with the same land use designation. As such, buildout of the project site with residential and commercial uses and the associated wildfire risk has been previously considered by the City. Thus, the proposed project would not be expected to be subject to or result in substantial adverse effects related to wildfires, and a ***less-than-significant*** impact would occur.

[47] California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	✖	☐	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	✖	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	✖	☐	☐

Discussion

a. While unlikely, the project could result in the uncovering of previously undiscovered archeological and/or paleontological resources during project construction. However, the proposed project would comply with applicable State and local regulations related to unintentional discovery, as discussed in Section V, Cultural Resources, of this IS. Given compliance with Mitigation Measures V-1 and V-2, impacts to cultural resources would be less than significant. Therefore, implementation of the proposed project would not eliminate important examples of the major period of California history or prehistory.

However, as discussed in Section IV, Biological Resources, of this IS, special-status species and sensitive habitat types have the potential to occur on-site, and could be adversely affected by implementation of the proposed project. Therefore, the proposed project could degrade the quality of the environment, substantially reduce or impact the habitat of fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Thus, a ***potentially significant*** impact could occur.

Further analysis of the above impact will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

b. The proposed project, in conjunction with other development within the City of Pacifica, could incrementally contribute to cumulative impacts in the project area. Thus, a ***potentially significant*** impact could occur with regard to cumulative impacts.

Further analysis of the above impacts will be included in the Biological Resources, Greenhouse Gas Emissions, and Statutorily Required Sections chapters of the 570 Crespi Drive Project EIR.

c. The proposed project could expose humans to hazards relating to water quality during construction and operation. In addition, the project could potentially expose neighboring noise-sensitive receptors to excess noise levels during construction. However, this IS includes mitigation measures that would reduce any potential impacts to less-than-significant levels. Furthermore, the proposed project would be designed in accordance with all applicable building standards and codes to ensure adequate safety is provided for the future residents of the proposed project. Therefore, impacts related to environmental effects that could cause adverse effects on human beings would be ***less than significant***.

Appendix A

Air Quality and Greenhouse Gas Modeling Results

570 Crespi Drive Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	570 Crespi Drive
Construction Start Date	6/2/2025
Operational Year	2027
Lead Agency	City of Pacifica
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	37.59819136044743, -122.49929944787738
County	San Mateo
City	Pacifica
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1224
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.25

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	16.0	Dwelling Unit	0.78	36,839	5,602	—	46.0	—
Medical Office Building	3.17	1000sqft	0.07	3,165	7,953	—	—	—
Parking Lot	15.0	Space	0.13	0.00	0.00	—	—	—
Apartments Low Rise	3.00	Dwelling Unit	0.00	3,692	0.00	—	9.00	—
Other Asphalt Surfaces	5.56	1000sqft	0.13	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.22	2.04	6.83	8.29	0.02	0.23	0.88	1.05	0.21	0.41	0.57	—	1,530	1,530	0.06	0.02	0.18	1,538

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.37	1.25	1.51	< 0.005	0.04	0.16	0.19	0.04	0.07	0.10	—	253	253	0.01	< 0.005	0.03	255

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606

Mit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Mit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Mit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359
Mit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219

Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46.0	46.0	0.01	< 0.005	—	46.2

Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.7	39.7	< 0.005	< 0.005	—	39.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072

Dust From Material Movemen	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movement	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movemen	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movemen	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7

Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	6.33	6.33	< 0.005	< 0.005	—	6.39
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14.0	14.0	< 0.005	< 0.005	—	14.2

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.69	7.69	< 0.005	< 0.005	—	7.77

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Apartments	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	6/2/2025	6/3/2025	5.00	2.00	—
Grading	Grading	6/5/2025	7/30/2025	5.00	40.0	—
Building Construction	Building Construction	8/28/2025	1/13/2027	5.00	360	—
Paving	Paving	7/31/2025	8/27/2025	5.00	20.0	—
Architectural Coating	Architectural Coating	9/11/2025	1/27/2027	5.00	360	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	82,075	27,358	4,748	1,583	680

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1.88	0.00	—

Grading	2,400	—	40.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.26

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Medical Office Building	0.00	0%
Parking Lot	0.13	100%
Apartments Low Rise	—	0%
Other Asphalt Surfaces	0.13	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16

Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
82075.275	27,358	4,748	1,583	680

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	68,392	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,251	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	0.00	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,205	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00

Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00
Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—
Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—

Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00

Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Changes made based on project-specific information. It should be noted that the low-rise apartment acreage and landscaping are reflected in commercial land use due to being a mixed-use building. On-site parking has 15 spaces under the parking lot category, and the improvements in Parcel 2 are included under the Other Asphalt Surfaces category.
Construction: Construction Phases	Changes made based on applicant-provided information. Demolition stage not required. Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days.
Operations: Hearths	Natural gas hearths removed due to City prohibition for residential structures.

AERMOD Model Options

Model Options

Pathway	Keyword	Description	Value
CO	TITLEONE	Project title 1	Crespi Drive Project Construction Health Risk Assessment
CO	TITLETWO	Project title 2	
CO	MODELOPT	Model options	DFAULT,CONC,NODRYDPLT,NOWETDPLT
CO	AVERTIME	Averaging times	1,24,ANNUAL
CO	URBANOPT	Urban options	
CO	POLLUTID	Pollutant ID	PM25 H1H
CO	HALFLIFE	Half life	
CO	DCAYCOEF	Decay coefficient	
CO	FLAGPOLE	Flagpole receptor heights	1.8
CO	RUNORNOT	Run or Not	RUN
CO	EVENTFIL	Event file	F
CO	SAVEFILE	Save file	F
CO	INITFILE	Initialization file	
CO	MULTYEAR	Multiple year option	N/A
CO	DEBUGOPT	Debug options	N/A
CO	ERRORFIL	Error file	F
SO	ELEVUNIT	Elevation units	METERS
SO	EMISUNIT	Emission units	N/A
RE	ELEVUNIT	Elevation units	METERS
ME	SURFFILE	Surface met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.SFC
ME	PROFFILE	Profile met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.PFL
ME	SURFDATA	Surf met data info.	23234 2009
ME	UAIRDATA	U-Air met data info.	23230 2009
ME	SITEDATA	On-site met data info.	
ME	PROFBASE	Elev. above MSL	2.4
ME	STARTEND	Start-end met dates	
ME	WDROTATE	Wind dir. rot. adjust.	
ME	WINDCATS	Wind speed cat. max.	
ME	SCIMBYHR	SCIM sample params	
EV	DAYTABLE	Print summary opt.	N/A
OU	EVENTOUT	Output info. level	N/A

OU	DAYTABLE	Print summary opt.	

Source Parameter Tables

All Sources

Source ID / Pollutant ID	Source Type	Description	UTM		Elev.	Emiss. Rate	Emiss. Units	Release Height
			East (m)	North (m)	(m)			(m)
29R3K7E1	VOLUME	Construction Equip	544210.9	4161358.8	0	0.0015941	(g/s)	5

Volume Sources

Source ID / Pollutant ID	Description	UTM		Elev.	Emiss. Rate	Release Height	Init. Lat. Dim.	Init. Vert. Dim.
		East (m)	North (m)	(m)	(g/s)	(m)	(m)	(m)
29R3K7E1	Construction Equip	544210.9	4161358.8	0	0.0015941	5	29.59	1

BREEZE AERMOD Model Results

Max. Annual (5 YEARS) Results of Pollutant: PM25 (ug/m**3)

Group ID	High	Avg. Conc.	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
			East (m)	North (m)	(m)	(m)	(m)		
ALL	1ST	0.01595	544313.30	4161379.00	0.00	0.00	1.80	DC	
	2ND	0.01584	544308.30	4161389.00	0.00	0.00	1.80	DC	
	3RD	0.01528	544313.30	4161384.00	0.00	0.00	1.80	DC	
	4TH	0.01520	544318.30	4161374.00	0.00	0.00	1.80	DC	
	5TH	0.01504	544167.10	4161255.70	0.00	0.00	1.80	DC	
	6TH	0.01498	544308.30	4161394.00	0.00	0.00	1.80	DC	
	7TH	0.01466	544318.30	4161379.00	0.00	0.00	1.80	DC	
	8TH	0.01457	544313.30	4161389.00	0.00	0.00	1.80	DC	
	9TH	0.01455	544177.10	4161250.70	0.00	0.00	1.80	DC	
	10TH	0.01455	544162.10	4161255.70	0.00	0.00	1.80	DC	

Highest Results of Pollutant: PM25

Avg. Per.	Grp ID	High	Type	Val	Units	Date	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
						YYMMDDHH	East (m)	North (m)	(m)	(m)	(m)		
1-HR	ALL	1ST	Avg. Conc.	1.92131	ug/m**3	09011618	544167.10	4161255.70	0.00	0.00	1.80	DC	

Summary of Total Messages

#	Message Type
0	Fatal Error Message(s)
4	Warning Message(s)
6306	Informational Message(s)
43872	Hours Were Processed
5804	Calm Hours Identified
502	Missing Hours Identified (1.14 Percent)

Error & Warning Messages

Msg. Type	Pathway	Ref. #	Description
WARNING	CO	W276	Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H
WARNING	CO	W363	Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H

WARNING	OU	W565	Possible Conflict With Dynamically Allocated FUNIT PLOTFILE
WARNING	MX	W481	Data Remaining After End of Year. Number of Hours= 48

www.breeze-software.com

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Cancer Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK	1ST_DRIVER	2ND_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.01595	4.80E-06	1.75YrCancerHighEnd_Inh_FAH16to70	*	4.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Chronic Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Cresyl_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_DOSE	MMILK_DOSE	WATER_DOSE	FISH_DOSE	CROP_DOSE	BEEF_DOSE	DAIRY_DOSE	PIG_DOSE	CHICKEN_DOSE	EGG_DOSE	1ST_DRIVER	2ND_DRIVER	3RD_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.016	NonCancerChronicHighEnd_Inh	########	########	########	########	########	0.00E+00	########	########	########	0.00E+00	########	########	########	0.00E+00	"	1.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Acute Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL
1			9901	DieselExhPM	1.92131	NonCancerAcute	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B

Geotechnical Investigation and Response to Geotechnical Investigation Peer Review

GEOTECHNICAL INVESTIGATION
FOR PROPOSED
NEW TOWNHOUSE COMPLEX
at the
Crespi Drive Property
570 Crespi Drive
Pacifica, California

Report Prepared for:

Mr. Brendan Murphy

Report Prepared by:

GeoForensics, Inc.

January 2016

GEOFORENSICS INC. Consulting Soil Engineering

561-D Pilgrim Drive, Foster City, CA 94404 Phone: (650) 349-3369 Fax: (650) 571-1878

File: 215247
January 5, 2016

Mr. Brendan Murphy
P.O. Box 301
San Mateo, CA 94401

Subject: **Crespi Drive Property**
570 Crespi Drive
Pacifica, California
GEOTECHNICAL INVESTIGATION FOR PROPOSED NEW TOWNHOUSE COMPLEX AND COMMERCIAL BUILDING

Dear Mr. Murphy:

In accordance with your authorization, we have performed a subsurface investigation into the geotechnical conditions present at the location of the proposed improvements. This report summarizes the conditions we measured and observed, and presents our opinions and recommendations for the design and construction of the proposed new townhouse complex and commercial building.

Site Description

The subject site is a relatively level, rectangularly-shaped parcel located on the south side of Crespi Drive (at the approximate location shown on Figure 1). For purposes of description in this report, it is assumed that the property faces north. The property is bounded by a commercial building to the east, the Pacifica Community Center to the west, developed single family residential lots to the south, and Crespi Drive to the north.

The site is currently occupied by a one-story, wood-framed residence situated on the northern end of the lot. There is an attached garage at the northwest corner of the house. The wooden house floors are supported above crawlspace areas, while the garage has a concrete slab-on-grade floor. A concrete driveway leads from the street to the garage.

The ground surface in the site vicinity has an overall gentle slope down towards the west (as shown on Figure 2). At the site, the ground also slopes gently down towards the west. Surface gradients range from level to 20:1 (horizontal:vertical, H:V).

The grounds around the residence are vegetated with a variety of small to medium sized bushes and shrubs, numerous small to large trees, and various other native plants and grasses. There is a concrete walkway across the front of the house.

Proposed Construction

We understand that the current development for the site proposes the demolition of the existing residence, and the subsequent construction of a new townhouse complex and a commercial building with upper level living space. The structures are to be of conventional, wood-framed construction. New foundation loads are expected to be typical for these types of structures (i.e. light).

Excavation work at the site is expected to be limited to crawlspace and foundation excavations. No significant fill placement is anticipated as part of this work. No significant retaining walls are anticipated for this scope of work. No basements are planned for the townhouses or commercial building.

INVESTIGATION

Scope and Purpose

The purpose of our investigation was to determine the nature of the subsurface soil conditions so that we could provide geotechnical recommendations for the construction of the proposed new townhouse complex and commercial building. In order to achieve this purpose, we have performed the following scope of work:

1 - visited the property to observe the geotechnical setting of the area to be developed;
2 - reviewed relevant published geotechnical maps;
3 - drilled three borings near the location of the proposed improvements;
4 - performed laboratory testing on collected soil samples;
5 - assessed the collected information and prepared this report.

The findings of these work items are discussed in the following sections of this report.

Site Observations

We visited the site on December 8, 2015 to observe the geotechnically relevant site conditions. During our visit, we noted the following conditions:

A - The existing house appears to be supported by a perimeter concrete footing with isolated interior wooden posts resting on concrete pedestals. The foundation system appeared to be in good condition, with no major cracks (as observed from the exterior).

B - We observed hairline to ¼ inch wide cracks in the concrete of the walkways and the driveway.

C - The exterior house walls were covered with wood siding. The wood siding walls were generally in a state of disrepair.

D - We consider the drainage around the house to be poor. The ground surface near the house, and over much of the lot, is flat without sufficient slope away from the house to adequately carry water away from the house. "Trapped" planters and low areas also exist near the house foundations. Additionally, there are no roof downspouts, as water is allowed to sheet flow onto the ground surface near the house foundations. Water which is discharged, collected, or trapped by the house foundations may seep into the crawlspace.

E - We would characterize the drainage over the majority lot to be sheet flow to the west.

Geologic Map Review

We reviewed the *Geology of the Onshore Part of San Mateo County, California: Derived from the Digital Database Open-File 98-137*, by Earl E. Brabb, R.W. Graymer, and D.L. Jones (1998). The relevant portion of the Brabb, Graymer, and Jones map has been reproduced in Figure 3.

The Brabb, Graymer, and Jones map indicate that the site is underlain by Alluvial Fan and Fluvial Deposits (map symbol "Qhaf") and Artificial Fill (map symbol "af").

Brabb, Graymer, and Jones describe Alluvial Fan and Fluvial Deposits as consisting of "brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, medium dense sand that fines upward to sandy or silty clay."

Artificial Fill has been described as consisting of "loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 meters in some places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials."

Our subsurface exploration (see below) encountered silt, clay, sand, and organic materials which we judged to be consistent with the Artificial Fill mapping.

The active San Gregorio Fault is mapped approximately 2.0 miles (3.2 km) southwest of the site.

Subsurface Exploration

On December 8, 2015 we drilled three borings at the site at the locations shown on Figure 4. The borings were drilled using a Mobile B-24 truck-mounted drilling rig equipped with 4.0 inch diameter, helical flight augers. Logs of the soils encountered during drilling record our observations of the cuttings traveling up the augers and of relatively undisturbed samples collected from the base of the advancing holes. The final boring logs are based upon the field logs with occasional modifications made upon further laboratory examinations of the recovered samples and laboratory test results. The final logs are attached in Appendix A.

The relatively undisturbed samples were obtained by driving a 3.0 inch (outer diameter) Modified California Sampler and a Standard Penetration Sampler (as noted on logs) into the base of the advancing hole by repeated blows from a 140 pound hammer lifted 30 inches. On the logs, the number of blows required to drive the sampler the final 12 inches of the 18 inch drive, have been recorded as the Blow Counts. These blows have not been adjusted to reflect equivalent blows of any other type of sampler or hammer, or to account for the different samplers used.

Subsurface Conditions

Boring 1 first penetrated 4 feet of loose sand. This was underlain by clay with sand to a depth of 6.5 feet. Below this was soft to firm silt with an organic smell to 12.5 feet. At 12.5 feet, the boring encountered stiff silty clay with varying amounts of organics down to the terminated boring depth of 17.5 feet.

Borings 2 and 3 both penetrated 6 feet of loose to medium dense silty sand over soft silt with organics. This was underlain by stiff to very stiff silty clay with varying amounts of sand and rock fragments down to the terminated boring depths of 23.5 and 29.5 feet.

Please refer to Appendix A for a more detailed description of each boring.

Initially, groundwater was encountered at depths of 16 feet (Boring 1), 12.5 feet (Boring 2), and at 11 feet (Boring 3) during the drilling of the holes. In Boring 1, the level of the water rose to a depth of 13 feet after 3 hours. In Boring 2, the level of the water rose to 12 feet after 1.5 hours. However, during periods of heavy rain or late in the winter, groundwater seepage may exist at even shallower depths.

Laboratory Testing

The relatively undisturbed samples collected during the drilling process were returned to the laboratory for testing of engineering properties. In the lab, selected soil samples were tested for moisture content, density, plasticity, and consolidation. The results of the laboratory tests are attached to this report in Appendix B.

Organic Content Testing conducted on a sample of the site soils (Sample 2-2 @ 9 feet) indicated that 86.7 percent of the "soil" at this depth consists of organic matter. Due to the soils having greater than 50 percent organic matter, the testing lab and our office describe the soil as peat.

Plasticity Index (PI) testing performed on a sample of the site near surface materials (the sample of the peat at 9 feet) produced a PI result of 210. This testing showed that the peat has a very high liquid limit, which led to the high plasticity index of 210. Typically, a plasticity index of greater than about 30 correlates to a highly expansive soil. However, peat has a tendency to produce unusual test results. Therefore, this number does not necessarily indicate that the peat is highly expansive.

The Consolidation test conducted on a sample of the site soils (the sample of the peat at 9 feet) indicated that the soils have a preconsolidation pressure of about 1000 psf which is approximately the same as the overburden pressure currently pressing on top of these soils. Therefore, we consider the upper soils to be normally consolidated.

CONCLUSIONS AND RECOMMENDATIONS

General

Based upon our investigation, we believe that the proposed improvements can be safely constructed. Geotechnical development of the site is controlled by the presence of a layer of highly organic soils ((peat) that is highly compressible. Therefore, it will be necessary to utilize a foundation system which derives its support from the deeper, more stable soils beneath the peat or use a stiff foundation system and accept some overall tilt of the structure. WWe recommend a mat slab supported by deep foundation elements be used to reach the more stable materials as the best alternative (avoiding settlements), or, alternatively, a waffle may be utilized under a mat slab if tilting is acceptable.

The recommendations in this report should be incorporated into the design and construction of the proposed new townhouse complex and commercial building.

Seismicity

The greater San Francisco Bay Area is recognized by Geologists and Seismologists as one of the most active seismic regions in the United States. Several major fault zones pass through the Bay Area in a northwest direction which have produced approximately 12 earthquakes per century strong enough to cause structural damage. The faults causing such earthquakes are part of the San Andreas Fault System, a major rift in the earth's crust that extends for at least 700 miles along western California. The San Andreas Fault System includes the San Andreas, San Gregorio, Hayward, Calaveras Fault Zones, and other faults.

During 1990, the U.S. Geological Survey cited a 67 percent probability that an earthquake of Richter magnitude 7, similar to the 1989 Loma Prieta Earthquake, would occur on one of the active faults in the San Francisco Bay Region in the following 30 years. Recently, this probability was increased to 70 percent, as a result of studies in the vicinity of the Hayward Fault. A 23 percent probability is still attributed specifically to the potential for a magnitude 7 earthquake to occur along the San Andreas Fault by the year 2020.

Ground Rupture - The lack of mapped active fault traces through the site, suggests that the potential for primary rupture due to fault offset on the property is low.

Ground Shaking - The subject site is likely to be subject to very strong to violent ground shaking during its life span due to a major earthquake in one of the above-listed fault zones. Current (2013) building code design may be followed by the structural engineer to minimize damages due to seismic shaking, using the following input parameters from the USGS Java Ground Motion Parameter Calculator based upon ASCE 7-10 design parameters:

Site Class - D	SM_S = 2.065	SM_1 = 1.334	SD_S = 1.377	SD_1 = 0.889

Landsliding - We note that the subject site and the surrounding area are generally level. Therefore, the hazard due to seismically-induced landsliding is, in our opinion, very low for the site.

Liquefaction - Liquefaction most commonly occurs during earthquake shaking in loose fine sands and silty sands associated with a high ground water table. These conditions were demonstrated to be absent in the upper 11 feet of site materials. Although there are some loose sand deposits at the site, they are not saturated, and hence are unlikely to be subject to liquefaction. Studies have found that when these soils are covered by at least 10 feet (3 meters) of non-liquefiable soils, the impacts of the liquefaction tend to be regional movements, rather than more dramatic localized problems. Although liquefaction is unlikely to have a significant effect on the subject property, the proposed rigid foundation should help to minimize any movements even further. Therefore, it is our opinion that the potential for any severe damages or collapse due to liquefaction at the site are very low.

Ground Subsidence - Ground subsidence may occur when poorly consolidated soils densify as a result of earthquake shaking. Since the proposed building site is underlain at shallow depths by resistant materials, the hazard due to ground subsidence is, in our opinion, considered to be low

Lateral Spreading - Lateral spreading may occur when a weak layer of material, such as a sensitive silt or clay, loses its shear strength as a result of earthquake shaking. Overlying blocks of competent material may be translated laterally towards a free face. Free face conditions are not present proximate to the site, hence, the hazard due to lateral spreading is, in our opinion, considered to be low.

Site Preparation and Grading

All debris resulting from the demolition of existing improvements should be removed from the site and may not be used as fill. Any existing underground utility lines to be abandoned should be removed from within the proposed building envelope and their ends capped outside of the building envelope.

Any vegetation and organically contaminated soils should be cleared from the building area. All holes resulting from removal of tree stumps and roots, or other buried objects, should be overexcavated into firm materials and then backfilled and compacted with native materials.

The placement of fills at the site is expected to include: utility trench backfill, slab subgrade materials, and finished drainage and landscaping grading. These and all other fills should be placed in conformance with the following guidelines:

Fills may use organic-free soils available at the site or import materials. Import soils should be free of construction debris or other deleterious materials and be non-expansive. *A minimum of 3 days prior to the placement of any fill, our office should be supplied with a 30 pound sample (approximately a full 5 gallon bucket) of any soil or baserock to be used as fill (including native and import materials) for testing and approval.*

All areas to receive fills should be stripped of organics and loose or soft near-surface soils. Fills should be placed on level benches in lifts no greater than 6 inches thick (loose) and be compacted to at least 90 percent of their Maximum Dry Density (MDD), as determined by ASTM D-1557. In pavement (concrete or asphalt) areas to receive vehicular traffic, all baserock materials should be compacted to at least 95 percent of their MDD. Also, the upper 6 inches of soil subgrade beneath any pavements should be compacted to at least 95 percent of its MDD.

Unless additional work is done to strengthen and densify the upper 10 to 12 feet of site materials, the grades should not be increased more than 6 inches higher than existing site grades. Otherwise, excessive settlements of the underlying compressible soils may occur. If fills in excess of 6 inches are to be placed, our office should be contacted for further recommendations.

Temporary, dry-weather, vertical excavations should remain stable for short periods of time to heights of 3 feet. All excavations should be shored or sloped in accordance with OSHA standards. Cuts deeper than 11 feet may encounter groundwater and will require temporary (and perhaps permanent) dewatering.

Permanent cut and/or fill slopes should be no steeper than 2:1 (H:V). However, even at this gradient, minor sloughing of slopes may still occur in the future. Positive drainage improvements (e.g. drainage swales, catch basins, etc.) should be provided to prevent water from flowing over the tops of cut and/or fill slopes.

Townhouse and/or Commercial Building Foundation – Mat Slab with Piers

The townhouse and/or commercial building foundations may be supported by a mat slab supported by drilled piers, helix augers, or pipe piles founded in the deeper materials beneath the peat.

Drilled Piers - Piers should penetrate a minimum of 25 feet below lowest adjacent grade. The piers should have a minimum diameter of 16 inches and be nominally reinforced with a minimum of four #4 bars vertically. Piers should be spaced a maximum of 15 feet center to center, and be spaced no closer than 4 diameters, center to center.

Holes greater than 11 feet may encounter groundwater. The contractor should be prepared to tremmie the piers, drill and pour the piers, and/or case the piers in the event of caving.

Actual pier depth, diameter, reinforcement, and spacing should be determined by the structural engineer based upon the following design criteria:

A friction value of 500 psf may be assumed to act on that portion of the pier below a depth of 12 feet. Lateral support may be assumed to be developed along the length of the pier below 12 feet, using a passive pressure of 350 pcf Equivalent Fluid Weight (EFW). Passive resistance may be assumed to act over 1.5 projected pier diameters. Above 12 feet, no frictional or lateral support may be assumed. These design values may be increased 1/3 for transient loads (i.e. seismic and wind).

The upper 12 feet of the pier will experience down drag as the peat decomposes. We recommend that a down drag friction of 500 psf be used on the upper 11 feet of pier.

Even though piers are designed to derive their vertical resistance through skin friction, the bases of the piers holes should be clean and firm prior to setting steel and pouring concrete. If more than 6 inches of slough exists in the base of the pier holes after drilling, then the slough should be removed. If less than 6 inches of slough exists, the slough may be tamped to a stiff condition. Piers should not remain open for more than a few days prior to casting concrete. In the event of rain, shallow groundwater, or caving conditions it may be necessary to pour piers immediately.

All perimeter piers, and piers under load-bearing walls, should be connected by concrete grade beams. Perimeter grade beams should penetrate a minimum of 6 inches below crawlspace grade (unless a perimeter footing drain is installed to intercept water attempting to enter around the perimeter). Interior grade beams do not need to penetrate below grade. All other isolated floor supports must also be pier supported, however, they do not need to be connected by grade beams.

All improvements connected directly to any pier supported structure, also need to be supported by piers. This includes, but is not limited to: porches, decks, entry stoops and columns, etc. If the designer does not wish to pier support these items, then care must be taken to structurally isolate them (with expansion joints, etc.) from the pier supported structure.

If the above recommendations are followed, total foundation settlements should be less than 1 inch, while differential settlements should be less than ½ inches.

Pipe Piles – Pipe piles may be used in lieu of drilled concrete piers. If used, they should be driven into the ground until the required capacity for structural loading and down drag are achieved by the driving equipment, and then filled with grout. Actual pile depth, pipe diameter, and spacing should be determined by the structural engineer. However, we recommend the pipe piles should be driven a minimum of 25 feet below lowest adjacent grade.

Helical Piers - Helical piers (Chance Augers) consist of a solid metal shaft fitted with a metal plate (or series of plates) warped into a screw thread on the tip of the lead shaft. The auger is screwed down into the ground until the required torque is achieved, indicating that adequate bearing pressures are also available. The helix then will accept vertical loads from the foundations and

transmit them to bearing pressures on the plates at the tip of the augers. The design process of these augers is based upon proprietary information developed by the Chance Company, and the calculations and designs can be prepared based upon the information contained in other sections and figures in this report.

Floor - The townhouse or commercial building floors should consist of a mat slab spanning between support elements. The entire slab should be underlain by at least 6 inches of clean, crushed drain rock. The drain rock should be covered by a moisture barrier which conforms to ASTM E1745-97 (e.g. Stego Wrap or an approved equivalent). Perforated collector pipes should be embedded within the drain rock around the perimeter of the slab and at 20 foot spacing (one-way) under the slab to carry any water which gathers within the drain rock to the drain discharge location. The need for any sand over the top of the vapor barrier should be determined by the slab designer or architect.

Alternative Townhouse and/or Commercial Building Foundation – Waffle System

Alternatively, the new foundation system may consist of a series of interlocking grade beams which will create a rigid system to support a structurally spanning slab for the new townhouse/commercial building. To provide the most rigid system, it will be important that long, narrow protrusions be minimized from the design in favor of the most rectangular (ideally square) footprint geometry possible. It should be noted that use of a waffle system may still result in differential settlements relative to the grades surrounding the townhouse complex or commercial building, resulting in elevation differences across building/garage entrances and thresholds, as well as an overall tilt to the building.

The grade beams should be a minimum of 36 inches tall and be capable of spanning or cantilevering the following distances and amounts:

Settlements - 20 foot diameter area anywhere in the interior; 10 feet of lost support along the perimeter; and, 5 feet of lost support at any corner.

The movements under the foundations must not result in a deflection of the foundation grade beam system in excess of a ratio of 1:360. To achieve this rigidity, it is anticipated that foundation grade beams will need to be on the order of 3 feet tall, a minimum of 18 inches wide, and spaced at no more than 17 feet in any direction. Ideally, grade beams should be located under all first story interior walls so as to maximize the rigidity under these walls.

The grade beams will all need to bear on stiff soils as identified by our office in the field. Should localized areas of expansive soils be encountered, we may direct the contractor to specially treat those areas to eliminate localized uplift. Such directions may include: the use of void form materials in sub-slab areas, over-excavation, or other methodology deemed appropriate by our engineer.

The grade beam system may be designed for a bearing capacity of 2000 psf may be used. For resistance to lateral forces, the embedded faces of the grade beams may be assumed to develop a passive resistance of 200 psf.

Due to the presence of the peat layer, the total dead load across the building footprint should not exceed 500 psf. If this value is exceeded, please contact our office for further recommendations.

Slabs-on-Grade

The townhouse garage/lower level floors and the commercial building floors should not consist of conventional concrete slabs-on-grade, however, may consist of mat slabs supported by piers or waffle foundation elements. The driveway, any sidewalks or patios may consist of conventional concrete slabs-on-grade, though it should be expected that some post-construction shifting of such slabs may occur. We have provided guidelines to help reduce post-construction movements, however, it is nearly impossible to economically eliminate all shifting.

To help reduce cracking, we recommend slabs be a minimum of 5 inches thick and be nominally reinforced with #4 bars at 18 inches on center, each way. Slabs which are thinner or more lightly reinforced may experience undesirable cosmetic cracking. However, actual reinforcement and thickness should be determined by the structural engineer based upon anticipated usage and loading.

In large non-interior slabs (e.g. patios, garage, etc.), score joints should be placed at a maximum of 10 feet on center. In sidewalks, score joints should be placed at a maximum of 5 feet on center. All slabs should be separated from adjacent improvements (e.g. footings, porches, columns, etc.) with expansion joints. Interior floor slabs will experience shrinkage cracking. These cosmetic cracks may be sealed with epoxy or other measures specified by the architect.

All interior slabs (including garage slab) should be underlain by 4 inches of clean ¾ inch crushed drain rock. The drain rock should be covered by a vapor barrier which conforms to ASTM E1745-97 (e.g. Stego Wrap or an approved equivalent). The architect or structural engineer should determine if sand is required over the vapor barrier.

Slabs which will be subject to light vehicular loads and through which moisture transmission is not a concern (e.g. driveway) should be underlain by at least 6 inches of compacted baserock, in lieu of any sand and gravel. Exterior landscaping flatwork (e.g. patios and sidewalks) may be placed directly on proof-rolled soil subgrade materials (e.g. no granular subgrade), however, they will be potentially subject to shifting and moisture transmission.

As stated previously, in pavement (concrete or asphalt) areas to receive vehicular traffic, all baserock materials should be compacted to at least 95 percent of their MDD. Also, the upper 6 inches of native soil subgrade beneath any pavements should be compacted to at least 95 percent of its MDD.

The townhouse garage/lower level slabs and commercial building slabs should be tied to the foundations to limit differential movements.

Drainage

Due to the flat nature of the site, it will be important to provide good drainage improvements at the property.

Surface Drainage - Adjacent to any buildings, the ground surface should slope at least 5 percent away from the foundations within 5 feet of the perimeter. Impervious surfaces should have a minimum gradient of 2 percent away from the foundation.

Surface water should be directed away from all buildings into drainage swales, or into a surface drainage system (i.e. catch basins and a solid drain line). "Trapped" planting areas should not be created next to any buildings without providing means for drainage (i.e. area drains).

All roof eaves should be lined with gutters. The downspouts may be connected to solid drain lines, or may discharge onto paved surfaces which drain away from the structure. The downspouts may be connected to the same drain line as any catch basins, but must not connect to any perforated pipe drainage system. If splash blocks are preferred, then a perimeter footing drain system **must** be installed.

Footing Drain - Due to the potential for changes to surface drainage provisions, it would be wise (though not required) to install a perimeter footing drain to intercept water attempting to enter under the garage/floor slab. If a footing drain is not installed, some moisture transmission up through the slab may occur. Such penetration should not be detrimental to the performance of the structure, but can possibly cause humidity and mildew problems within the townhouse and commercial building, or seepage up through the slab floors.

The footing drain system, if installed, should consist of a 12 inch wide gravel-filled trench, *dug at least 12 inches below the elevation of the adjacent slab subgrade*. The trench should be lined with a layer of filter fabric (Mirafi 140N or equivalent) to prevent migration of silts and clays into the gravel, but still permit the flow of water. Then 1 to 2 inches of drain rock (clean crushed rock or pea gravel) should be placed in the base of the lined trench. Next a perforated pipe (minimum 3 inch diameter) should be placed on top of the thin rock layer. The perforations in the pipe should be face down. The trench should then be backfilled with more rock to within 6 inches of finished grade. The filter fabric should be wrapped over the top of the rock. Above the filter fabric 6 inches of native soils should be used to cap the drain. If concrete slabs are to directly overlay the drain, then the gravel should continue to the base of the slab, without the 6 inch soil cap. This drain should not be connected to any surface drainage system.

If a floor slab is used, an under-slab drain system may also be installed, consisting of a perforated collector pipes spread no more than 20 feet apart, embedded within the sub-slab drain rock, to evacuate any water which gathers within the drain rock.

Drainage Discharge - The surface drain lines should discharge at least 15 feet away from the townhouse and commercial building, preferably at the street. The discharge location(s) may need to be protected by energy dissipaters to reduce the potential for erosion. Care should be taken not direct concentrated flows of water towards neighboring properties. This may require the use of multiple discharge points.

The footing drain lines (if installed) should discharge independently from the surface drainage systems. A sump pump may be required for the footing drain discharge systems. The surface and subsurface drain systems should not be connected to one another.

Drainage Materials - Drain lines should consist of hard-walled pipes (e.g. SDR 35 or Schedule 40 PVC). In areas where vehicle loading is not a possibility, SDR 38 or HDPE pipes may be used. Corrugated, flexible pipes may not be used in any drain system installed at the property.

Surface drain lines (e.g. downspouts, area drains, etc.) should be laid with a minimum 2 percent gradient (¼ inch of fall per foot of pipe). Any subsurface drain systems (e.g. footing drains) should be laid with a minimum 1 percent gradient (1/8 inch of fall per foot of pipe).

Utility Lines

Unless they pass through the perimeter footing drain system, all utility trenches should be backfilled with compacted on-site clay-rich materials within 5 feet of any buildings. This will help to prevent migration of surface water into trenches and then underneath the structures' perimeter. The rest of the trenches may be compacted with other native soils or clean imported fill. Only mechanical means of compaction of trench backfill will be allowed. Jetting of sands is not acceptable. Trench backfill should be compacted to at least 90 percent of its MDD. However, under pavements, concrete flatwork, and footings the upper 12 inches of trench backfill must be compacted to at least 95 percent of its MDD.

. If deeply supported foundations are used, flexible pipeline connections should be used where the utilities enter/exit the structures. Where on-grade foundations are used, it would be prudent to provide drainage lines with greater than normal slope, or to install such lines where access to replace any sags or reverse slopes can be easily corrected.

Pavement

The new driveway may consist of concrete, interlocking pavers, or asphaltic concrete over Caltrans Class II aggregate base (baserock). The asphalt should have a minimum thickness of 2½ inches. The baserock should have a minimum thickness of 6 inches. All of the baserock and the upper 6 inches of soil subgrade should attain a minimum compaction of 95 percent of its MDD. Any fill below this layer should attain a minimum of 90 percent relative compaction.

File: 215247
January 5, 2016

Plan Review and Construction Observations

The use of the recommendations contained within this report is contingent upon our being contracted to review the plans, and to observe geotechnically relevant aspects of the construction. We should be provided with a full set of plans to review at the same time the plans are submitted to the building/planning department for review. A minimum of one working week should be provided for review of the plans.

At a minimum, our observations should include: compaction testing of fills and subgrades; footing excavations; pier drilling; installation of helix piers or pipe piles; slab and driveway subgrade preparation; installation of any drainage system (e.g. under-slab, footing, and surface), and final grading. A minimum of 48 hours notice should be provided for all construction observations.

LIMITATIONS

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations.

The opinions, comments and conclusions presented in this report were based upon information derived from our field investigation and laboratory testing. Conditions between or beyond our borings may vary from those encountered. Such variations may result in changes to our recommendations and possibly variations in project costs. Should any additional information become available, or should there be changes in the proposed scope of work as outlined above, then we should be supplied with that information so as to make any necessary changes to our opinions and recommendations. Such changes may require additional investigation or analyses, and hence additional costs may be incurred.

Our work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the San Francisco Bay Area for projects of this nature and magnitude. We make no other warranty either expressed or implied. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

Respectfully Submitted:
GeoForensics, Inc.

Daniel F. Dyckman, PE, GE
Senior Geotechnical Engineer, GE 2145

Bernard A. Atendido
Field Engineer

cc: 5 to addressee

Source: Thomas Bros.

GEOFORENSICS, INC.

561 Pilgrim Dr., Suite D, Foster City, CA 94404

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Figure 1 - Site Location

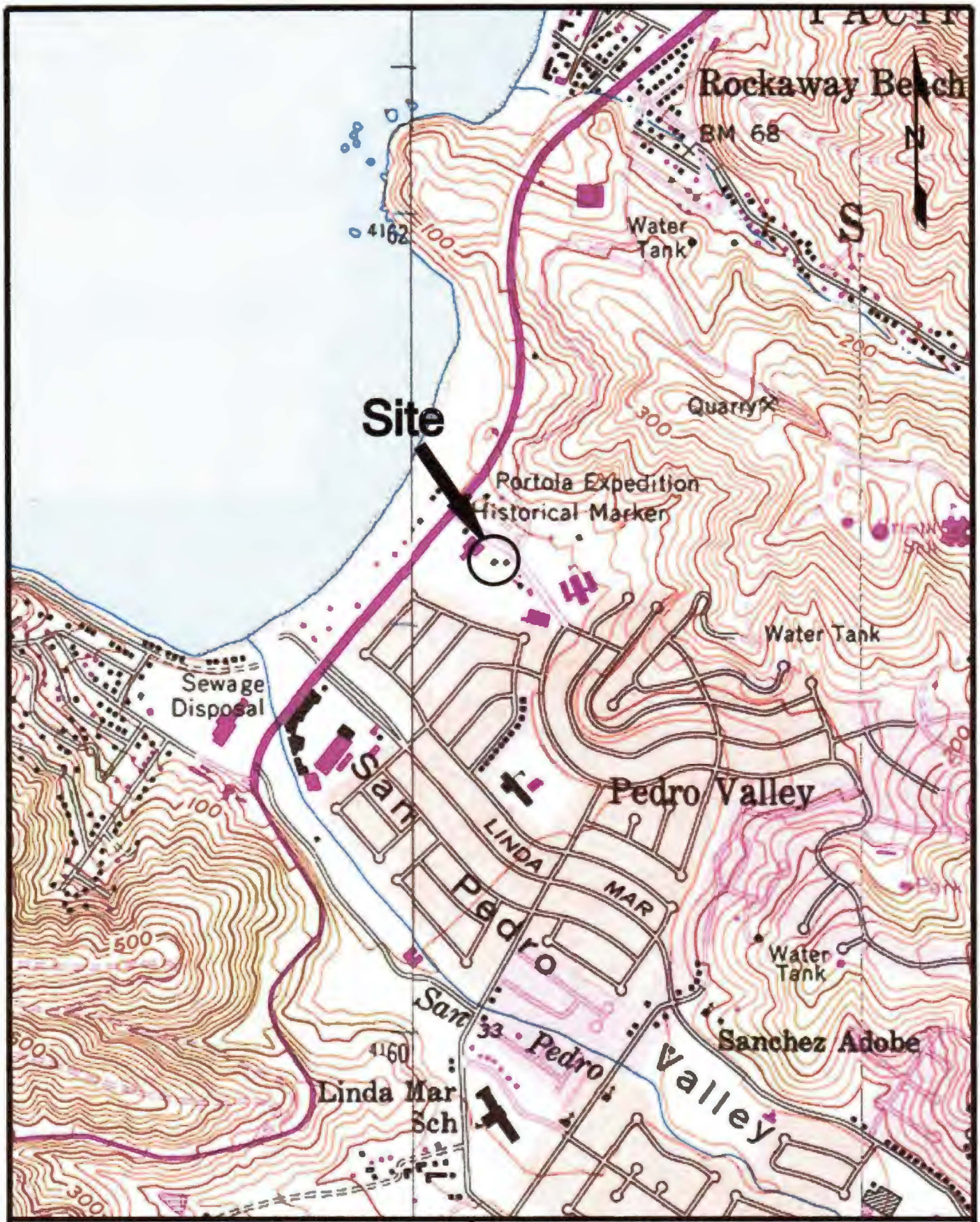

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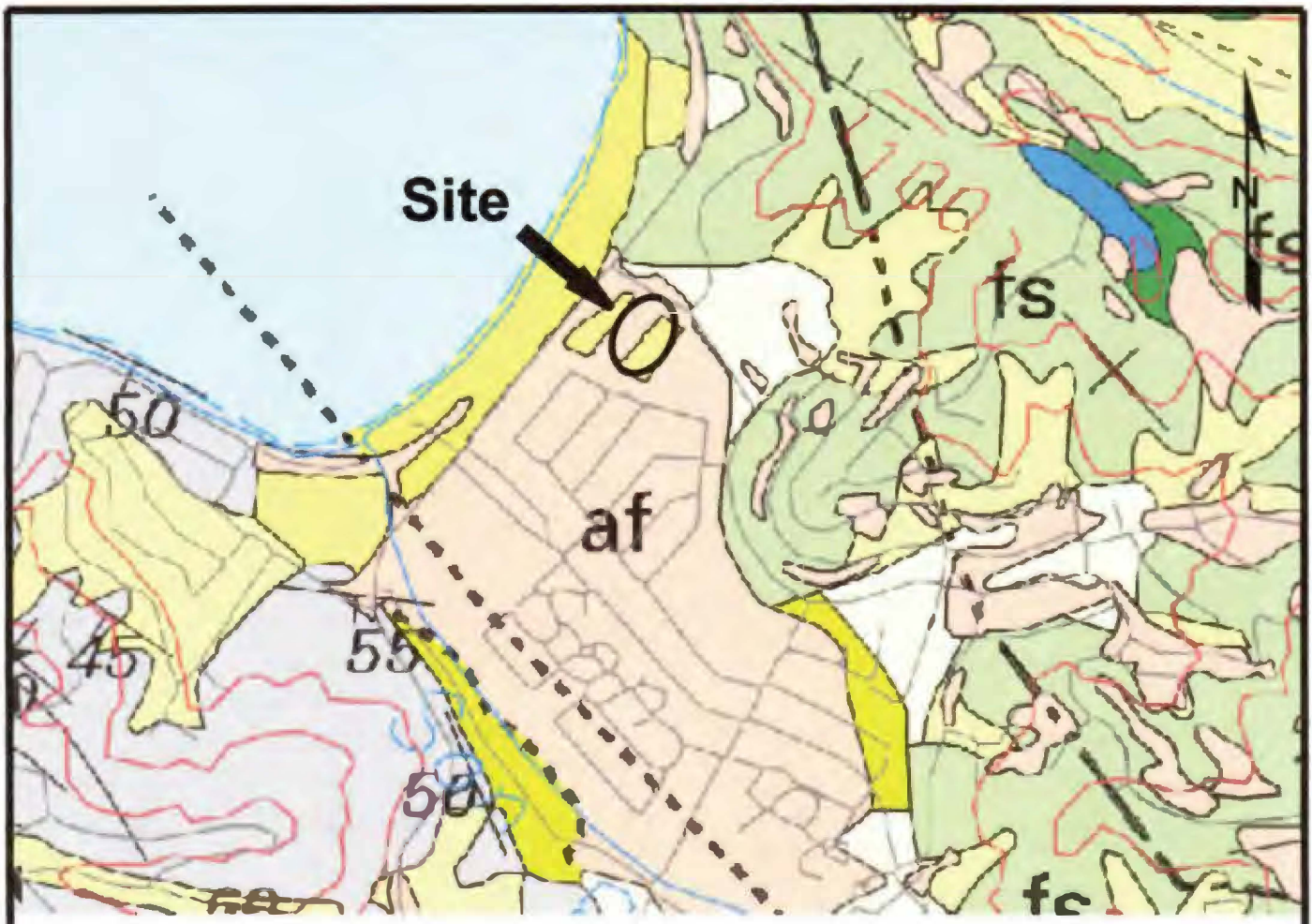
Figure 2 - Vicinity Topography



af — **Artificial fill (Historic)**—Loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 m in places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials

Qhaf — **Alluvial fan and fluvial deposits (Holocene)**—Alluvial fan deposits are brown or tan, medium dense to dense, gravely sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay

Source: Geology of the Onshore part of San Mateo County, California: derived from the digital database open-file 98-137. E.E.. Brabb, R.W. Graymer, and D.L. Jones (1998)

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Figure 3 - Geologic Map

APPENDIX A - BORING LOGS

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
				loamy SAND; dark brown; slightly moist (SM)		
	1-1		8	silty SAND; green brown; slightly moist; loose (SM)	101.2	11.0
5				silty CLAY with sand; greenish gray to dark gray; moist (CH)		
	1-2		6	SILT with organics; dark brown; moist; soft to firm (ML) (strong organic smell)	-	-
10						
	1-3		5	No recovery. Soil pulled out of sampler.	-	-
	1-4		9	silty CLAY with some organics; blue green; slightly moist; stiff (CH)	-	21.5
15						
	1-5		17	silty CLAY; blue green; slightly moist; stiff (CH)	-	21.3`
20						
				Bottom of Boring at 17.5 feet		
				Groundwater innitially encountered at 16 feet Rose to 13 feet after 3 hours		
25						
30						

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater to 13 feet

Mod. Cal Sampler

SPT Sampler

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Figure A1 - Log of Boring 1

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
5	2-1		22	silty SAND; green brown; slightly moist; medium dense (SM)	109.7	8.0
10	2-2		5	SILT with organics; dark brown; slightly moist to moist; soft (ML) (strong organic smell)	-	-
15	2-3		11	silty CLAY; blue green; slightly moist; stiff (CH)	-	20.2
20	2-4		12	silty sandy CLAY with pockets of sand; green brown; slightly moist to moist; stiff (CL)	-	18.0
25	2-5		16	silty sandy CLAY with rock fragments; orange brown and green brown; slightly moist; very stiff (CL)	-	23.1
30	2-6		15	silty sandy CLAY; orange brown and green brown; slightly moist; stiff to very stiff (CL)	-	20.6
				Bottom of Boring at 29.5 feet **Groundwater initially encountered at 12.5 feet** **Rose to 12 feet after 1.5 hours**		

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater to 12 feet

Mod. Cal Sampler
SPT Sampler

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Figure A2 - Log of Boring 2

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
5	3-1		15	silty SAND; green brown; slightly moist; medium dense (SM)	-	9.6
10				SILT with organics; dark brown; moist (ML)		
15	3-2		12	silty sandy CLAY; blue green; slightly moist; stiff (CL)	-	18.3
20	3-3		12	silty sandy CLAY; orange brown and green brown; slightly moist; stiff (CL)	-	19.1
25				**Bottom of Boring at 23.5 feet** **Groundwater encountered at 11 feet**		
30						

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater at 11 feet

Mod. Cal Sampler
SPT Sampler

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Figure A3 - Log of Boring 3

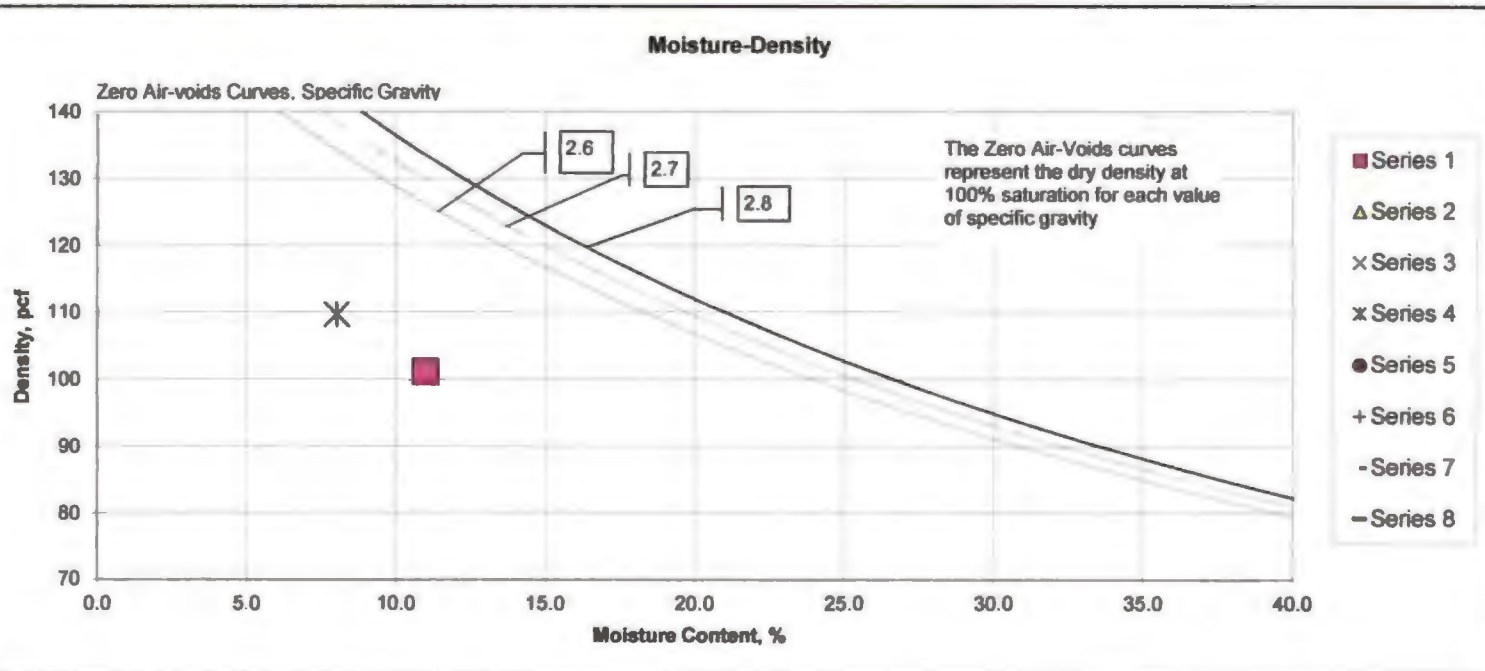
APPENDIX B - LABORATORY TEST RESULTS

Moisture-Density-Porosity Report
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No:	060-2387a	**Project No.**	215247	**By:**	RU
Client:	GeoForensics	**Date:**	12/16/15		
Project Name:	Crespi	**Remarks:**			

Boring:	1-1	1-4	1-5	2-1	2-3	2-4	2-5	2-6
Sample:								
Depth, ft:	2	14	17	4	14	1	24	29
Visual Description:	Olive Brown Clayey SAND w/ Gravel	Olive Gray CLAY w/ Sand	Olive Gray Sandy CLAY	Olive Brown Sandy CLAY	Olive Gray Sandy CLAY	Olive Brown Sandy CLAY	Olive Brown CLAY w/ Sand	Olive Brown CLAY w/ Sand
Actual G_s								
Assumed G_s	2.70			2.70				
Moisture, %	11.0	21.5	21.3	8.0	20.2	18.0	23.1	20.6
Wet Unit wt, pcf	112.3			118.5				
Dry Unit wt, pcf	101.2			109.7				
Dry Bulk Dens.pb, (g/cc)	1.62			1.76				
Saturation, %	44.5			40.3				
Total Porosity, %	40.0			34.9				
Volumetric Water Cont,θw,%	17.8			14.1				
Volumetric Air Cont., θa,%	22.2			20.9				
Void Ratio	0.67			0.54				
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered approximate.

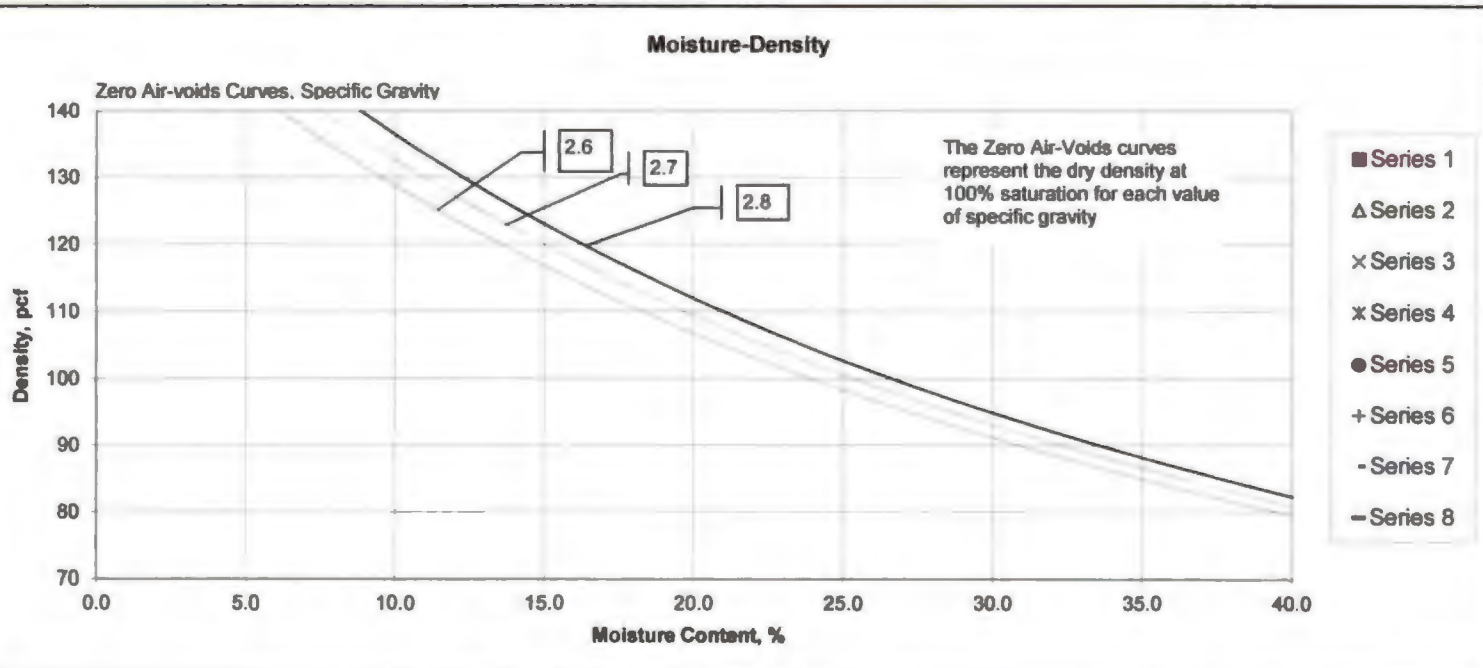


Moisture-Density-Porosity Report
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No:	060-2387b	**Project No.**	215247	**By:**	RU
Client:	GeoForensics	**Date:**	12/16/15		
Project Name:	Crespi	**Remarks:**	3-1 @ 3' - sample disturbed; m/c only.		

Boring:	3-1	3-2	3-3					
Sample:								
Depth, ft:	3	13.5	23					
Visual Description:	Olive Brown Sandy CLAY	Olive Gray CLAY w/ Sand	Olive Brown Sandy CLAY					
Actual G_s								
Assumed G_s								
Moisture, %	9.6	18.3	19.1					
Wet Unit wt, pcf								
Dry Unit wt, pcf								
Dry Bulk Dens.pb, (g/cc)								
Saturation, %								
Total Porosity, %								
Volumetric Water Cont,Θw,%								
Volumetric Air Cont., Θa,%								
Void Ratio								
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered approximate.



Organic Content Test
ASTM D 2974-00 (Method C - 440 °C)

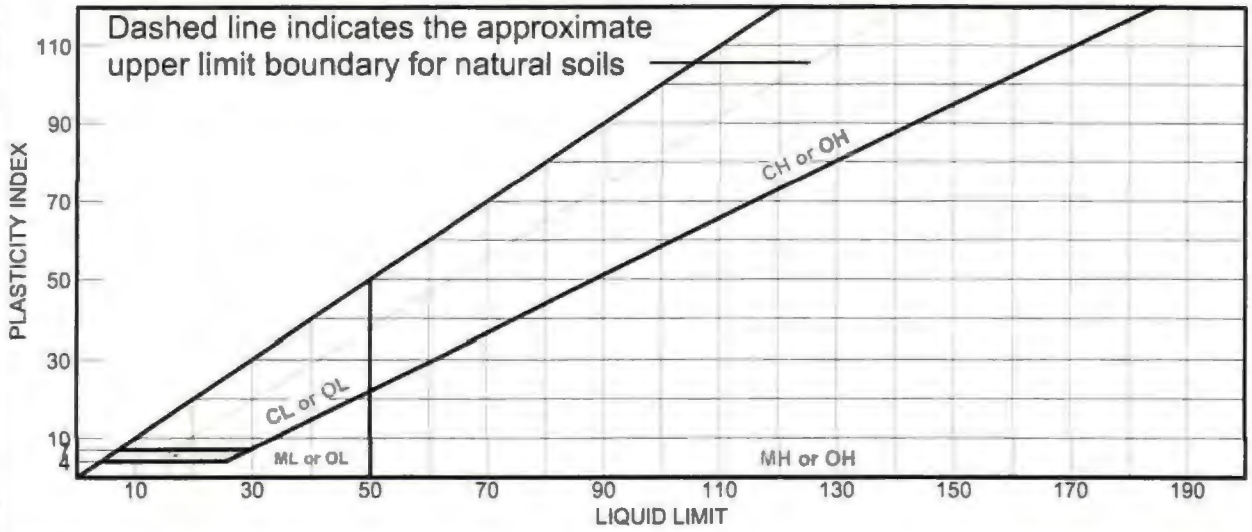
CTL JOB NO.	060-2387		**PROJECT:**	Crespi		**DATE:**	12/16/2015	
CLIENT :	GeoForensics		**PROJECT NO.:**	215247		**BY:**	RU	

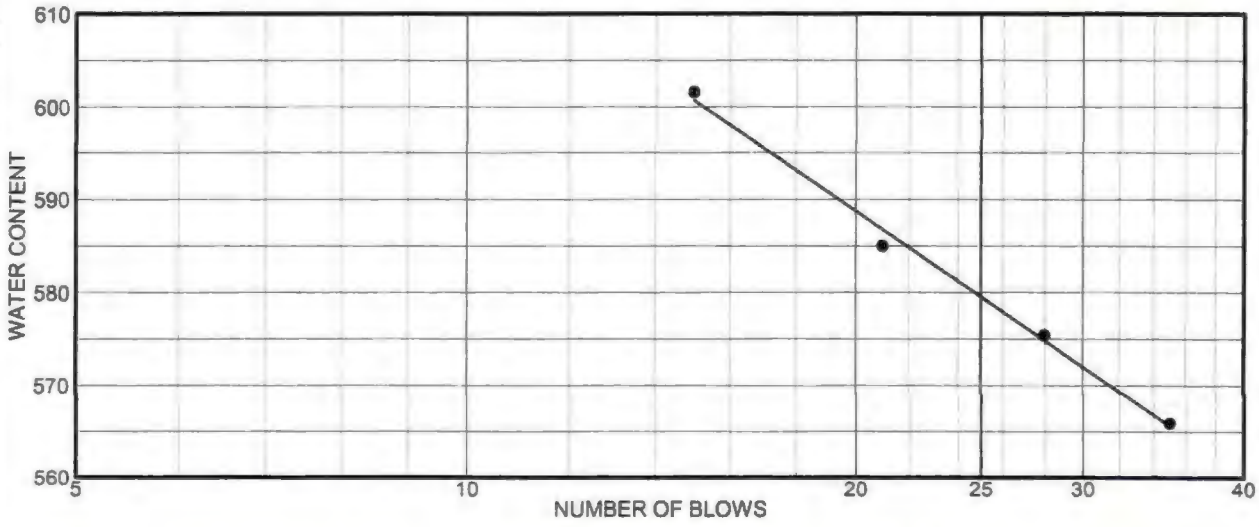
Boring :	1-2							
Sample :								
Depth (ft.):								
Visual Description:	Black Peat							
Dish No.								
Dish wt., gm	67.88							
Soil, Org, Dish & H_2O, gm	128.79							
Oven Dry wt (105°C), gm	78.29							
Furnace Dry wt. (440°C), gm	69.26							
Moisture Content, % of Oven Dry Mass	485.1							
Organic Matter, %	86.7							

Note: ASTM provides no guidelines for including information about the organic content of a sample in the description when the wet/dry liquid limit data is not available. CTL developed the following guidelines to fill this gap:

0-5%: The organics are either not mentioned or mentioned as being "trace".
5-15%: The soil is considered as inorganic and is classified, as per ASTM 2487, with "with organics" included in the desc
15-50%: The soil is considered as organic and is described, per ASTM 2487.
> 50%: The soil is described as "Peat".

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Black Peat	580	370	210			

Project No. 060-2387 **Client:** GeoForensics

Project: Crespi - 215247

● **Source:** 1-2

Remarks:

● Sample was prepared using the wet prep method.

LIQUID AND PLASTIC LIMITS TEST REPORT

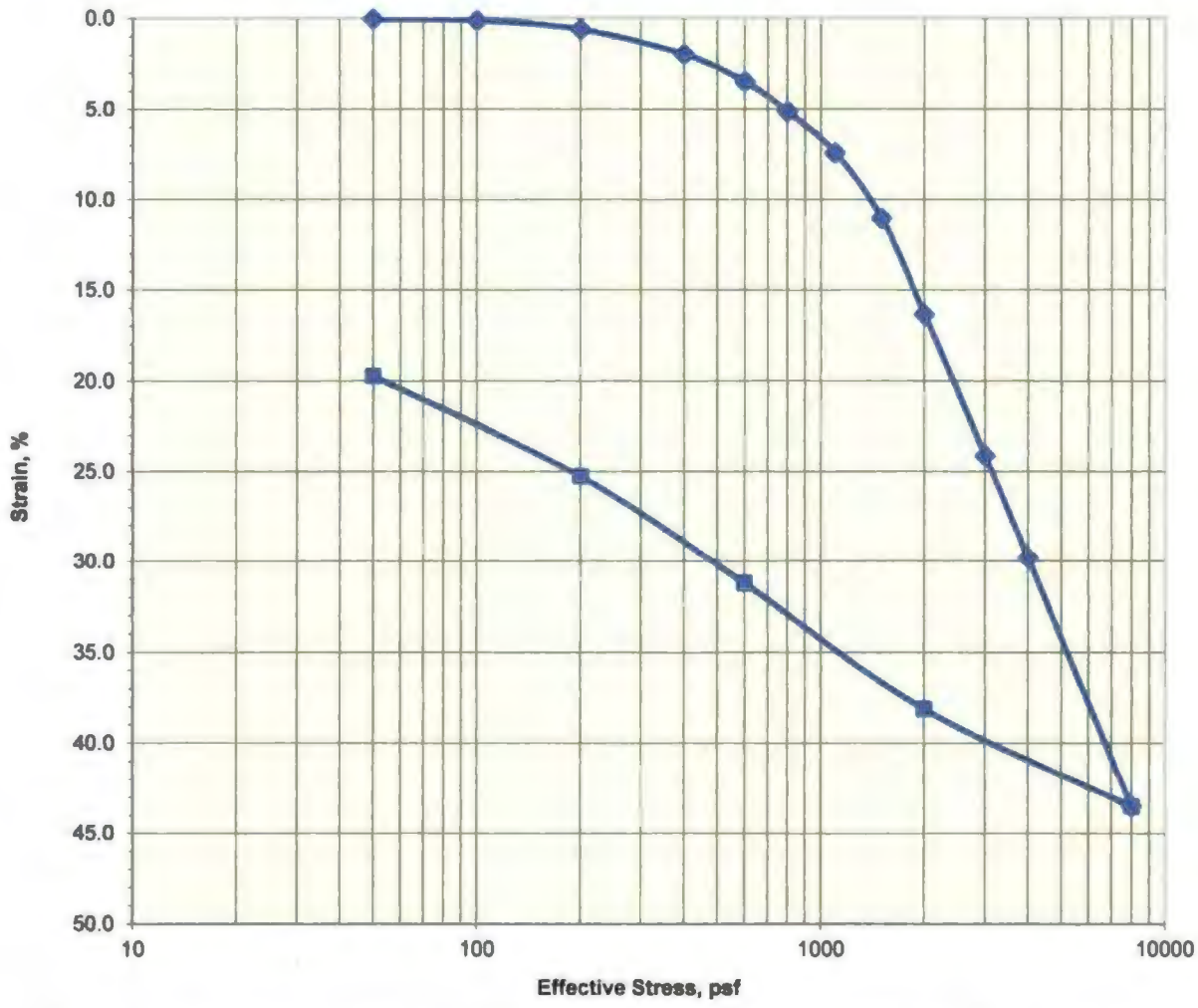
COOPER TESTING LABORATORY

Figure

Consolidation Test
ASTM D2435

Job No.:	060-2387	**Boring:**	2-2	**Run By:**	MD
Client:	GeoForensics	**Sample:**		**Reduced:**	PJ
Project:	Crespi - 215247	**Depth, ft.:**		**Checked:**	PJ/DC
Soil Type:	Black Peat			**Date:**	1/4/2016

Strain-Log-P Curve



Assumed Gs 2.2	Initial	Final
Moisture %:	313.6	275.4
Dry Density, pcf:	15.6	19.5
Void Ratio:	7.792	6.059
% Saturation:	88.5	100.0

Remarks:

Appendix C

Environmental Noise Assessment

Environmental Noise Assessment

570 Crespi Drive

City of Pacifica, California

September 22, 2021

Project # 200204

Prepared for:

Raney Planning and Management, Inc.
1501 Sports Drive
Sacramento, CA 95834

Prepared by:

Saxelby Acoustics LLC

Luke Saxelby, INCE Bd. Cert.
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Roseville, CA 95678

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INTRODUCTION

The 570 Crespi Drive residential project is located along the south side of Crespi Drive, east of Highway 1 in the City of Pacifica, California. The project consists of the construction of 3 separate buildings containing 15 residential units and 3,165 s.f. of commercial space.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

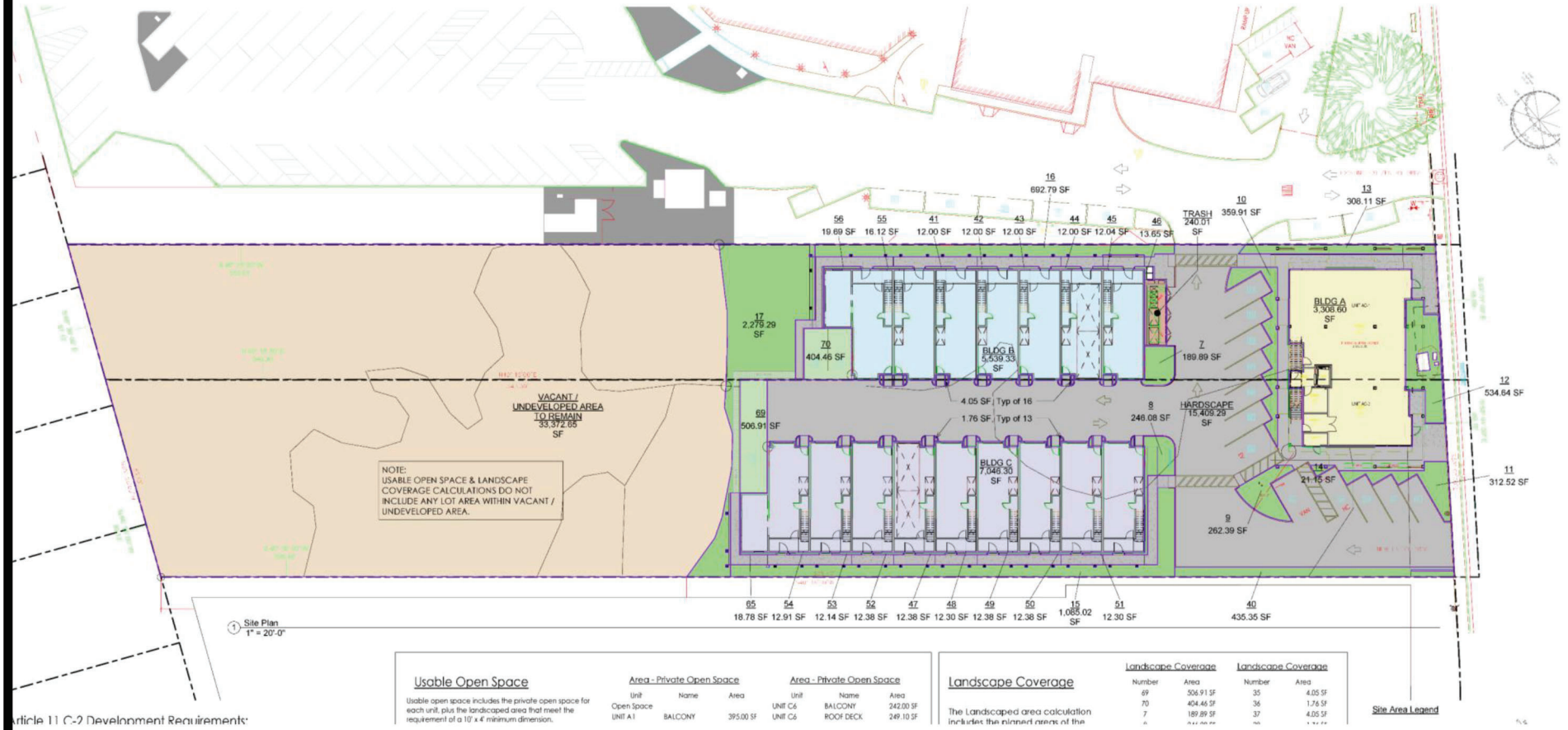
Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.



570 Crespi Drive
City of Pacifica, California

Figure 1
Project Site Plan

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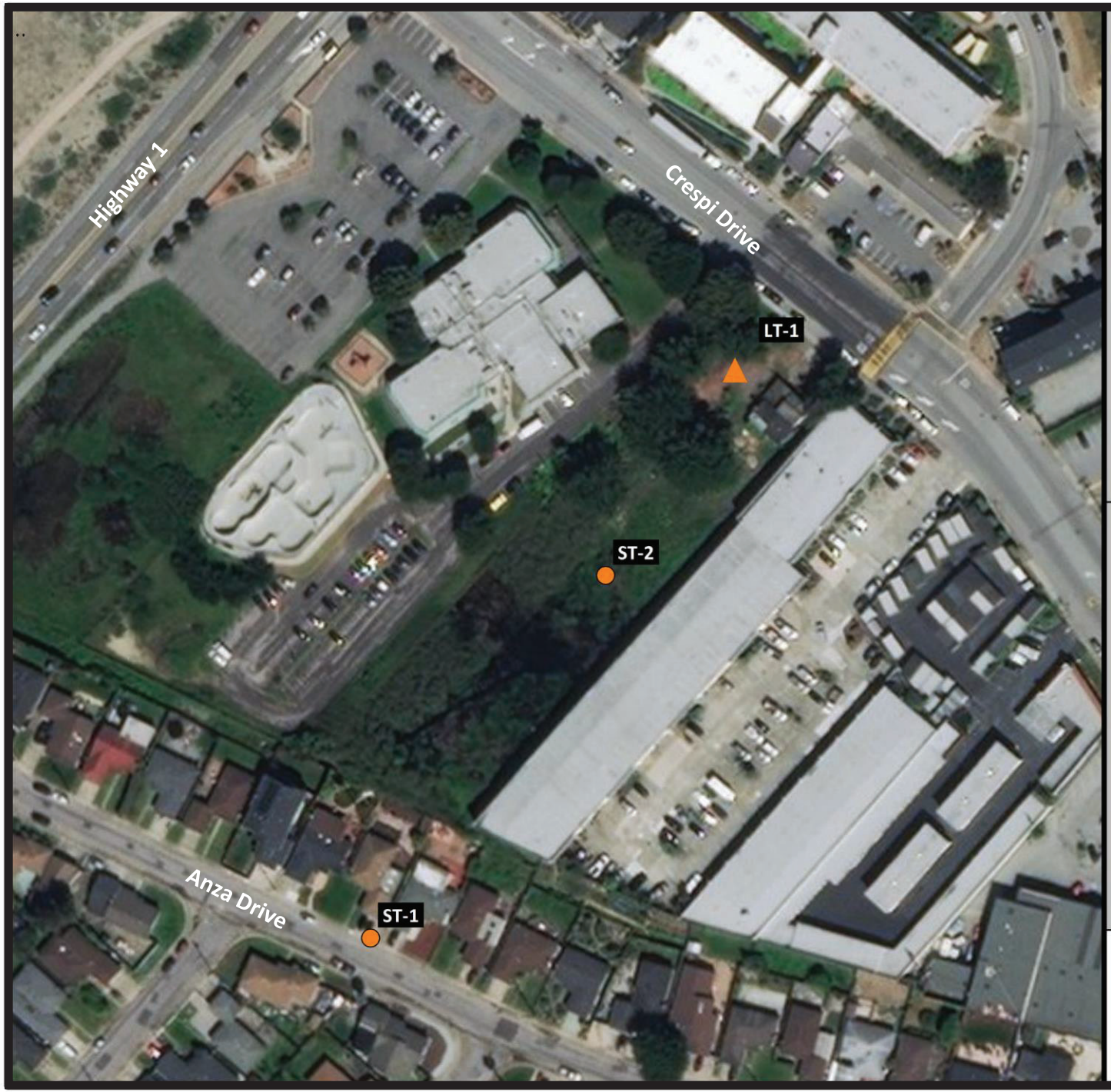

570 Crespi Drive

City of Pacifica, California

Figure 2

Noise Measurement Sites

Legend

- Noise Measurement - Long Term
- Noise Measurement - Short Term

0 ft 250 ft 500 ft 750 ft 1000 ft 1250 ft 1500 ft

Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 04/13/2020

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The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses located towards the southwest and multi-family residential uses located to the north and northeast.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by traffic on Highway 1 and Crespi Drive.

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at one location on the project site and short term measurements at 2 locations in the project vicinity.

Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a B&K Model 4230 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	Average Measured Hourly Noise Levels, dBA						
			Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
		CNEL/L_{dn}	L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
LT-1	04/09/20-04/10/20	58	54	51	73	51	45	67
ST-1	04/09/20-1:05 p.m.	N/A	55	44	93	N/A	N/A	N/A
ST-2	04/10/20-1:21 p.m.	N/A	48	47	58	N/A	N/A	N/A
Source: Saxelby Acoustics – 2020								

EVALUATION OF TRANSPORTATION NOISE SOURCES ON THE PROJECT SITE

ON-SITE TRANSPORTATION NOISE PREDICTION METHODOLOGY

Saxelby Acoustics used the SoundPLAN noise model to calculate traffic noise levels at the proposed residential uses due to traffic on Crespi Drive and Highway 1. The proposed project buildings and surrounding structures were input into the SoundPLAN model to determine the traffic noise exposure on the project site. Future (2041) traffic noise levels were calculated by assuming a 1% per year increase in traffic volumes on Highway 1 and Crespi Drive. The results of this analysis are shown on **Figure 3**. Based upon the SoundPLAN noise model, **Table 3** shows the maximum predicted traffic noise levels at the residential floors of the projects closest to Crespi Drive.

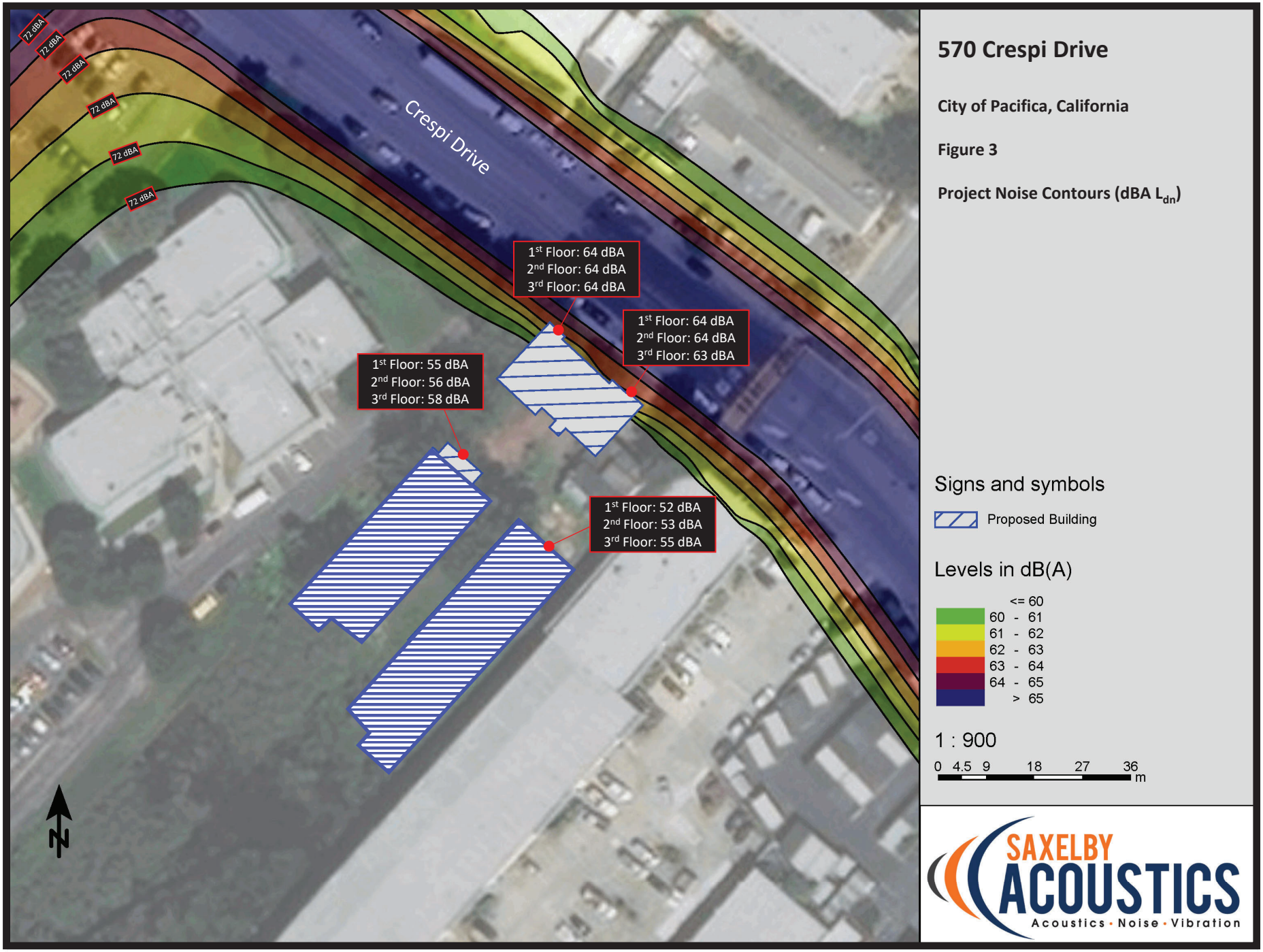
72 dBA
72 dBA
72 dBA
72 dBA
72 dBA
72 dBA
Crespi Drive
1st Floor: 64 dBA
2nd Floor: 64 dBA
3rd Floor: 64 dBA
1st Floor: 64 dBA
2nd Floor: 64 dBA
3rd Floor: 63 dBA
1st Floor: 55 dBA
2nd Floor: 56 dBA
3rd Floor: 58 dBA
1st Floor: 52 dBA
2nd Floor: 53 dBA
3rd Floor: 55 dBA
N
570 Crespi Drive
City of Pacifica, California
Figure 3
Project Noise Contours (dBA L_{dn})
Signs and symbols
Proposed Building
Levels in dB(A)
<= 60
60 - 61
61 - 62
62 - 63
63 - 64
64 - 65
> 65
1 : 900
0 4.5 9 18 27 36
m
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TABLE 3: TRAFFIC NOISE LEVELS AT PROJECT FACADES

Location	Exterior Noise Level, L_{dn}	Estimated Interior Noise Level, L_{dn}[1]
Building A - Northwest	63.6 dBA	38.6 dBA
Building A - Northeast	63.2 dBA	38.2 dBA
Multifamily West	58.4 dBA	33.4 dBA
Multifamily East	54.9 dBA	29.9 dBA
[1] Assumes typical 25 dBA exterior-to-interior noise level reduction.		

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for existing and future, project and no-project conditions.

Existing, Background, and Cumulative noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (RKH Civil and Transportation Engineering 2020), truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Existing, Baseline, and Cumulative conditions which would result from the project are provided in terms of L_{dn}.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers, or may be located at distances which vary from the assumed calculation distance.

Table 4, 5, and 6 summarize the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic modeling.

TABLE 4: EXISTING TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.8	69.8	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.4	72.4	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.2	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.3	66.3	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.2	61.2	0.1
Crespi Dr	Murphy Rd to McHenry Ave	62.7	62.8	0.1

TABLE 5: BACKGROUND TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.8	69.9	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.4	72.5	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.2	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.3	66.3	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.2	61.3	0.1
Crespi Dr	Murphy Rd to McHenry Ave	62.8	62.9	0.1

TABLE 6: CUMULATIVE TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.9	69.9	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.5	72.5	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.3	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.4	66.4	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.3	61.3	0.0
Crespi Dr	Murphy Rd to McHenry Ave	62.7	62.8	0.1

CONSTRUCTION NOISE ENVIRONMENT

The Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) was used to predict noise levels for standard construction equipment used for roadway improvement projects. The assessment of potential significant noise effects due to construction is based on the standards and procedures described in the Federal Transit Authority (FTA) guidance manual and FHWA's RCNM.

The RCNM is a Windows-based noise prediction model that enables the prediction of construction noise levels for a variety of construction equipment based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than the manual methods, which eliminates the need to collect extensive amounts of project-specific input data. RCNM allows for the modeling of multiple pieces of construction equipment working either independently or simultaneously, the character of noise emission, and the usage factors for each piece of equipment.

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week), and the duration of the construction work.

Noise sources in the RCNM database include actual noise levels and equipment usage percentages. This source data was used in this construction noise analysis. **Table 7** shows predicted construction noise levels for each of the project construction phases.

TABLE 7: CONSTRUCTION EQUIPMENT NOISE LEVELS FOR PRIMARY CONSTRUCTION PHASES

Equipment	Quantity	Usage (%)	Maximum, Lmax (dBA at 50 feet)	Hourly Average, Leq (dBA at 50 feet)
Site Preparation				
Graders	1	40	85	81
Rubber Tired Dozers	1	40	82	78
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**83**
Grading				
Graders	1	40	85	81
Rubber Tired Dozers	1	40	82	78
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**83**
Foundations				
Pile Driver	1	20	101	94
			Total:	**94**
Building Construction				
Cranes	1	16	81	73
Forklifts	1	40	83	79
Generator Sets	1	50	73	70
Tractors/Loaders/Backhoes	1	40	78	74
Welders	3	40	74	70
			Total:	**82**
Paving				
Cement and Mortar Mixers	1	40	79	75
Pavers	1	50	77	74
Paving Equipment	1	50	77	74
Rollers	1	20	80	73
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**81**
Architectural Coating				
Air Compressors	1	40	78	74
			Total:	**74**

Source: FHWA, Roadway Construction Noise Model (RCNM), January 2006.

Based upon the **Table 7** data, the loudest phase of construction with an average noise exposure of 94 dBA Leq at 50 feet would occur during pile driving activities. The next loudest phase would be grading and site preparation at 83 dBA Leq at 50 feet. Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors in terms of the City's day/night average (Ldn) noise level criterion. It should be noted that the Ldn calculation conservatively assumes twelve hours

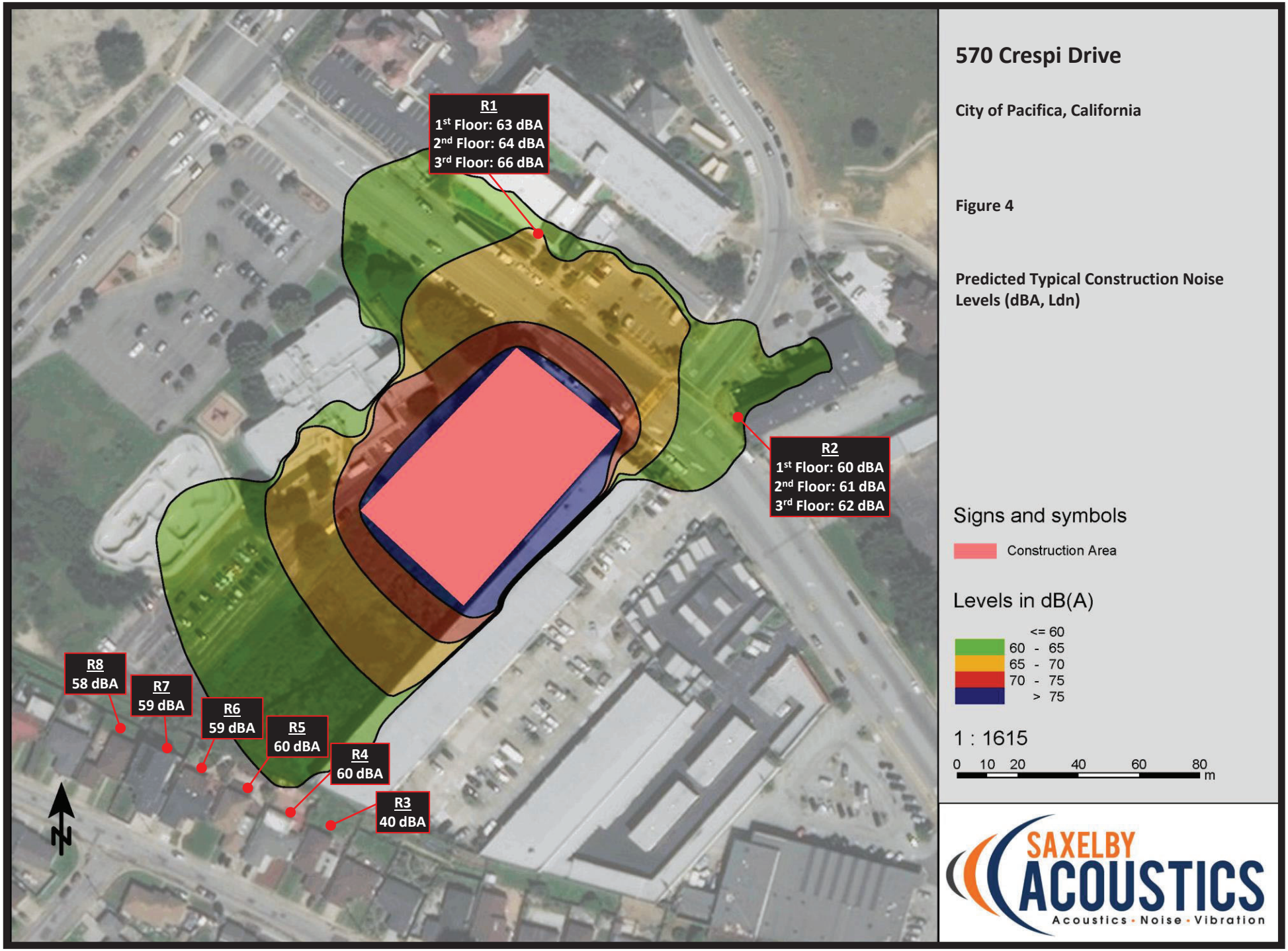
of continuous construction between the hours of 7:00 a.m. to 7:00 p.m. The results of the construction noise analysis are shown graphically on **Figure 4** (without pile driving) and **Figure 5** (with pile driving). A summary of the noise prediction results for each phase of construction are shown in **Table 8**.

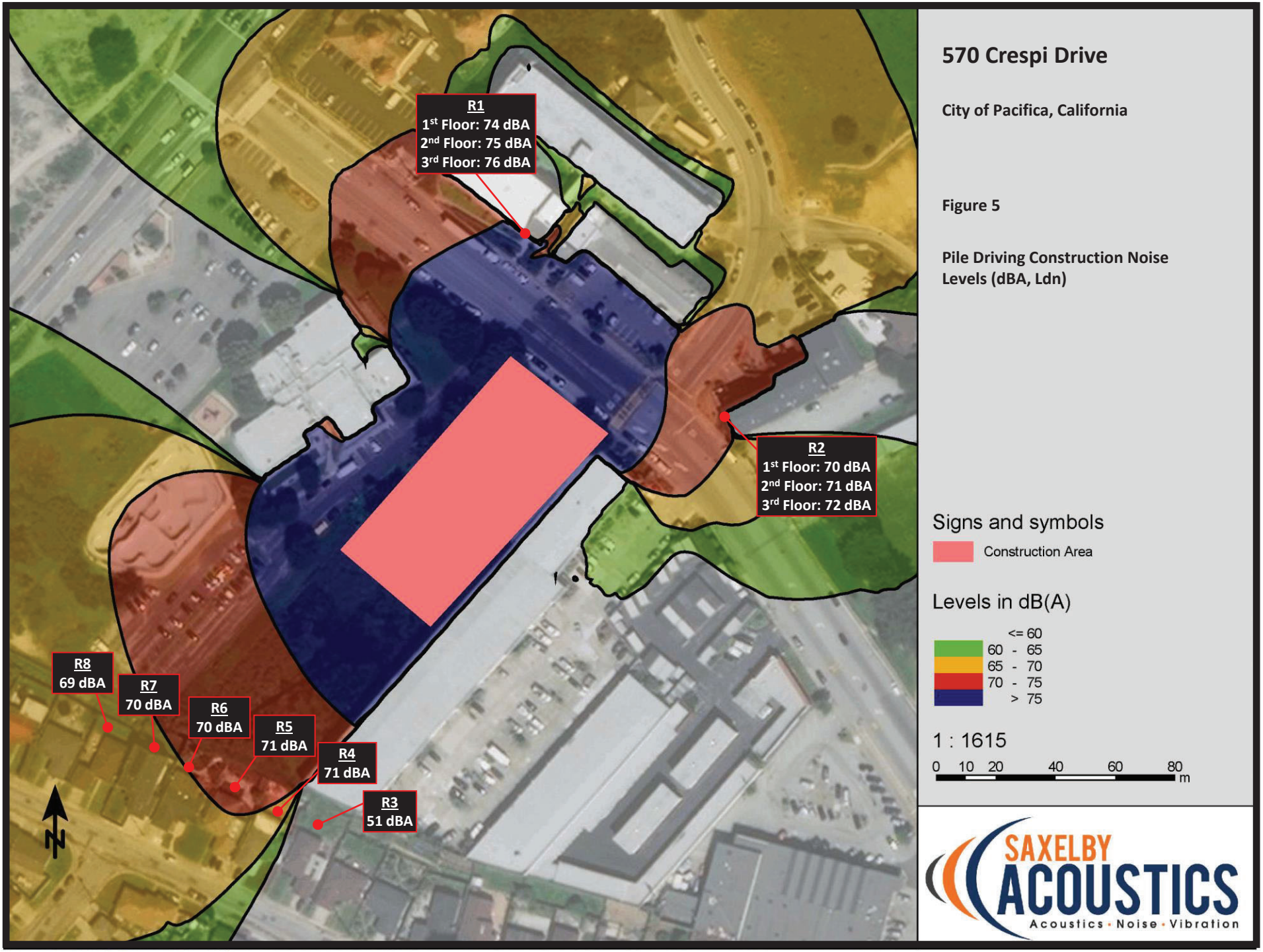
TABLE 8: PREDICTED CONSTRUCTION NOISE LEVELS BY LOUDEST PHASES

Receiver (Use)	Measured Daytime Noise Level, L_{dn}[1]	Predicted Construction Noise Level, L_{dn}	Change
Site Preparation			
R1 (Residential)	58 dBA	66 dBA	+8 dBA
R2 (Residential)	58 dBA	62 dBA	+4 dBA
R3 (Residential)	52-58 dBA	40 dBA	+0 dBA
R4 (Residential)	52-58 dBA	60 dBA	+8 dBA
R5 (Residential)	52-58 dBA	60 dBA	+8 dBA
R6 (Residential)	52-58 dBA	59 dBA	+7 dBA
R7 (Residential)	52-58 dBA	59 dBA	+7 dBA
R8 (Residential)	52-58 dBA	58 dBA	+6 dBA
Grading			
R1 (Residential)	58 dBA	66 dBA	+8 dBA
R2 (Residential)	58 dBA	62 dBA	+4 dBA
R3 (Residential)	52-58 dBA	40 dBA	+0 dBA
R4 (Residential)	52-58 dBA	60 dBA	+8 dBA
R5 (Residential)	52-58 dBA	60 dBA	+8 dBA
R6 (Residential)	52-58 dBA	59 dBA	+7 dBA
R7 (Residential)	52-58 dBA	59 dBA	+7 dBA
R8 (Residential)	52-58 dBA	58 dBA	+6 dBA
Foundations (Pile Driving)			
R1 (Residential)	58 dBA	76 dBA	+18 dBA
R2 (Residential)	58 dBA	72 dBA	+14 dBA
R3 (Residential)	52-58 dBA	51 dBA	+0 dBA
R4 (Residential)	52-58 dBA	71 dBA	+19 dBA
R5 (Residential)	52-58 dBA	71 dBA	+19 dBA
R6 (Residential)	52-58 dBA	70 dBA	+18 dBA
R7 (Residential)	52-58 dBA	70 dBA	+18 dBA
R8 (Residential)	52-58 dBA	69 dBA	+17 dBA
Building Construction			
R1 (Residential)	58 dBA	65 dBA	+7 dBA
R2 (Residential)	58 dBA	61 dBA	+3 dBA

R3 (Residential)	52-58 dBA	39 dBA	+0 dBA
R4 (Residential)	52-58 dBA	59 dBA	+7 dBA
R5 (Residential)	52-58 dBA	59 dBA	+7 dBA
R6 (Residential)	52-58 dBA	58 dBA	+6 dBA
R7 (Residential)	52-58 dBA	58 dBA	+6 dBA
R8 (Residential)	52-58 dBA	57 dBA	+5 dBA
Paving			
R1 (Residential)	58 dBA	64 dBA	+6 dBA
R2 (Residential)	58 dBA	60 dBA	+2 dBA
R3 (Residential)	52-58 dBA	38 dBA	+0 dBA
R4 (Residential)	52-58 dBA	58 dBA	+6 dBA
R5 (Residential)	52-58 dBA	58 dBA	+6 dBA
R6 (Residential)	52-58 dBA	57 dBA	+5 dBA
R7 (Residential)	52-58 dBA	57 dBA	+5 dBA
R8 (Residential)	52-58 dBA	56 dBA	+4 dBA
Architectural Coating			
R1 (Residential)	58 dBA	57 dBA	+0 dBA
R2 (Residential)	58 dBA	53 dBA	+0 dBA
R3 (Residential)	52-58 dBA	31 dBA	+0 dBA
R4 (Residential)	52-58 dBA	51 dBA	+0 dBA
R5 (Residential)	52-58 dBA	51 dBA	+0 dBA
R6 (Residential)	52-58 dBA	50 dBA	+0 dBA
R7 (Residential)	52-58 dBA	50 dBA	+0 dBA
R8 (Residential)	52-58 dBA	49 dBA	+0 dBA

[1] As measured at Site LT-1.


R1
1st Floor: 63 dBA
2nd Floor: 64 dBA
3rd Floor: 66 dBA
R2
1st Floor: 60 dBA
2nd Floor: 61 dBA
3rd Floor: 62 dBA
R3
40 dBA
R4
60 dBA
R5
60 dBA
R6
59 dBA
R7
59 dBA
R8
58 dBA
N
570 Crespi Drive
City of Pacifica, California
Figure 4
Predicted Typical Construction Noise Levels (dBA, Ldn)
Signs and symbols
Construction Area
Levels in dB(A)
<= 60
60 - 65
65 - 70
70 - 75
> 75
1 : 1615
0 10 20 40 60 80 m
SAXELBY ACOUSTICS
Acoustics · Noise · Vibration


R1
1st Floor: 74 dBA
2nd Floor: 75 dBA
3rd Floor: 76 dBA
R2
1st Floor: 70 dBA
2nd Floor: 71 dBA
3rd Floor: 72 dBA
R3
51 dBA
R4
71 dBA
R5
71 dBA
R6
70 dBA
R7
70 dBA
R8
69 dBA
N
570 Crespi Drive
City of Pacifica, California
Figure 5
Pile Driving Construction Noise Levels (dBA, Ldn)
Signs and symbols
Construction Area
Levels in dB(A)
<= 60
60 - 65
65 - 70
70 - 75
> 75
1 : 1615
0 10 20 40 60 80
m
SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities would occur during pile driving, grading, utilities placement, and parking lot construction. **Table 9** shows the typical vibration levels produced by construction equipment.

TABLE 9: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Pile Driving (impact)	0.644	0.228	0.081
Pile Driving (sonic)	0.170	0.060	0.023
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines.* Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

LOCAL

City of Pacifica 1980 General Plan

The 1980 City of Pacifica General Plan has a Noise Element. However, that document suggests that 60 dB CNEL / Ldn is considered to be a "higher noise level". The City staff have used the 60 dB threshold as the test of significance when evaluating projects. The City of Pacifica is in the process of updating the General Plan. However, that General Plan Update and associated EIR have not been adopted.

City of Pacifica General Plan Update

The noise level standards and guiding policies in the City of Pacifica General Plan are consistent with the State of California guidelines for determining land use compatibility and are similar to those used throughout the State. The thresholds for community land use compatibility which are contained within the proposed General Plan Noise Element are shown in **Table 10**. For proposed land uses in areas where noise exposure may be expected to be greater than the “normally acceptable” threshold, maximum allowable noise exposure with noise mitigation measure is defined in **Table 11**. **Table 12** provides noise emission standards for new stationary noise sources. Listed below are the noise goals, policies, and implementation measures that would be applicable to the proposed project:

Community Noise Exposure

Table 9-1 presents the community noise exposure matrix, establishing criteria the City can use to evaluate land use compatibility based on noise levels. This matrix is adapted from guidelines provided by the Office of Planning and Research. Noise exposure levels are classified as being “normally

acceptable," "conditionally acceptable," "normally unacceptable," or "clearly unacceptable" for different land use types.

Normally Acceptable

- **Indoor Uses:** Either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable level; for land use types that are compatible because of inherent noise levels, sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of 50 dB CNEL.
- **Outdoor Uses:** Outdoor activities associated with the land use may be carried out with minimal interference.

Conditionally Acceptable

- **Indoor Uses:** Noise reduction measures must be incorporated into the design of the project to attenuate exterior noise to the indoor noise levels listed in Table 9-2
- **Outdoor Uses:** Noise reduction measures must be incorporated into the design of the project to attenuate exterior noise to the outdoor noise levels listed in Table 9-2. Acceptability is dependent upon characteristics of the specific use

Normally Unacceptable

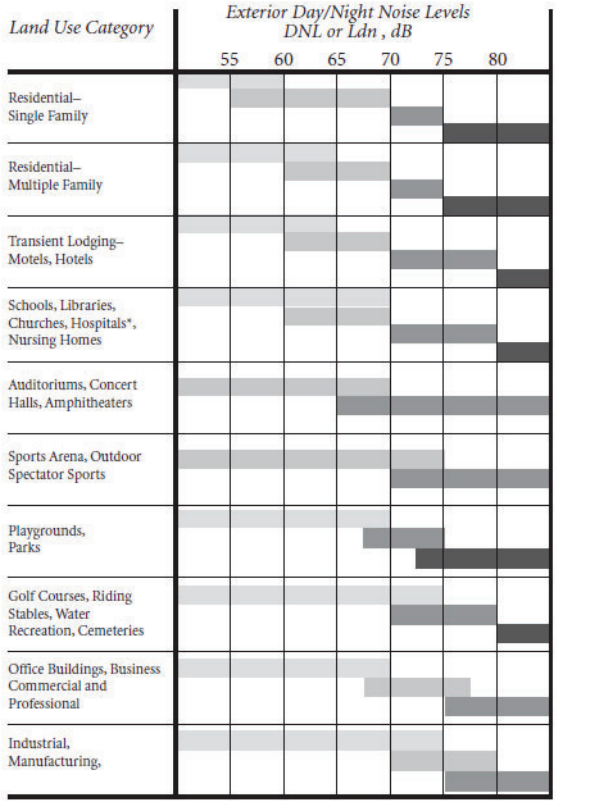
- **Indoor Uses:** Extensive mitigation techniques are required to make the indoor environment accept- able for indoor activities. Noise level reductions necessary to attenuate exterior noise to the indoor noise levels listed in Table 9-2 are difficult to achieve and may not be feasible.
- **Outdoor Uses**: Severe noise interference makes the outdoor environment unacceptable for out- door activities. Noise level reductions necessary to attenuate exterior noise to the outdoor noise levels listed in Table 9-2 are difficult to achieve and may not be feasible.

Clearly Unacceptable

- New construction or development should generally not be undertaken.

TABLE 10: PROPOSED GENERAL PLAN UPDATE LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

TABLE 9-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source: Office of Planning and Research, State of California General Plan Guidelines, Appendix A: Guidelines for the Preparation and Content of the Noise Element of the General Plan,

*Because hospitals are often designed and constructed with high noise insulation properties, it is possible for them to be satisfactorily located in noisier areas.

INTERPRETATION

Normally Acceptable:
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Normally Unacceptable:
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable:
New construction or development clearly should not be undertaken.

TABLE 11: PROPOSED GENERAL PLAN UPDATE ALLOWABLE NOISE EXPOSURE

TABLE 9-2: ALLOWABLE NOISE EXPOSURE			
	Outdoor Activity Areas[1]	Interior Spaces	
Noise-Sensitive Land Use	DNL/CNEL[2], dB	DNL/CNEL2, dB	Leq dB[3]
Residential	65	45	–
Transient Lodging (Hotels, Motels)	65	45	–
Hospitals, Nursing Homes	65	45	–
Theaters, Auditoriums, Music Halls	–	–	35
Churches, Meeting Halls	65	–	45
Office Buildings	–	–	45
Schools, Libraries, Museums	–	–	45

1 Outdoor activity areas generally include backyards of single-family residences and outdoor patios, decks or common recreation areas of multi-family developments.
2 The CNEL is used for quantification of aircraft noise exposure as required by CAC Title 21.
3 As determined for a typical worst-case hour during periods of use.

TABLE 12: PROPOSED GENERAL PLAN NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

TABLE 9-3: NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES[1]		
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	65

1 As determined at the property line of the receiving noise-sensitive use.

Guiding Policies

NO-G-1 Coordination with Other Agencies
Continue to work with other agencies, airports and jurisdictions to reduce noise levels in Pacifica created by their operations.

NO-G-2 Acceptable Noise Environment
Strive to achieve an acceptable noise environment for the environmental, health and safety needs of present and future residents of Pacifica.

NO-G-3 Sensitive Land Uses
Protect noise sensitive land uses, such as schools, hospitals, and senior care facilities, from encroachment of and exposure to excessive levels of noise.

Implementing Policies

NO-I-1 Community Noise Level Standards
Use the Community Noise Level Exposure Standards, shown in Table 9-1, as review criteria for new land uses. Require all new development that would be exposed to noise greater than the "normally accept- able" noise level range to reduce interior noise through design, sound insulation, or other measures.

NO-I-2 Design Features for Noise Reduction
Require noise-reducing mitigation to meet allowable outdoor and indoor noise expo- sure standards in Table 9-2. Noise mitigation measures that may be approved to achieve these noise level targets include but are not limited to the following:

- Construct façades with substantial weight and insulation;
- Use sound-rated windows for primary sleeping and activity areas;
- Use sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Use minimum setbacks and exterior barriers;
- Use acoustic baffling of vents for chimneys, attic and gable ends;
- Install a mechanical ventilation system that provides fresh air under closed window conditions.

Alternative acoustical designs that achieve the prescribed noise level standards may be approved, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

NO-I-3 Best Available Control Technology
Require new, fixed noise sources (e.g. mechanical equipment) to use best avail- able control technology (BACT) to minimize noise and vibration.

Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.

NO-I-4 Mechanical Equipment for New Residential Development
Ensure that building regulations require that noise-generating appliances serving new multi-family or mixed-use residential development are located or adequately insulated to protect residents from the noise.

NO-I-5 Noise Criteria for City Equipment
Develop noise criteria for new equipment purchased by the City.

NO-I-6 Construction Noise
Continue to limit hours for certain construction and demolition work to reduce construction-related noises.

NO-I-7 Noise from Highways and Buses
Work with Caltrans and Sam Trans to mitigate transportation-related noise impacts on residential areas and sensitive uses. This may include encouraging installation of sound barriers or bus stop relocation in selected locations.

NO-I-8 Airport Noise Disclosure Requirements
Update the Municipal Code to ensure that special disclosure requirements concerning airport noise refer to the most current CNEL noise contours developed for San Francisco International Airport.

NO-I-9 Airport Noise Abatement Program
Continue to work with the airport in improving and implementing its noise abatement program.

NO-I-10 Residential Sound Insulation Program
If the airport's federally-approved 65 dB CNEL annual noise contour is mapped within the City, request that the San Fran- cisco Airport's Residential Sound Insulation Program allocate available federal and airport funding to sensitive, noise-affected properties in Pacifica.

NO-I-11 Noise Ordinance
Update the noise ordinance to implement General Plan policies and noise standards.

NO-I-12 Noise Enforcement
Establish a Noise Abatement Unit made up of members of the Police and other departments to enforce the City's noise regulations and assign primary responsibility for coordinating overall noise control effort to one City department.

City of Pacifica Municipal Code

The City of Pacifica Municipal Code - Section 8-1.08 limits hours of construction to 7:00 a.m. to 7:00 p.m. on weekdays, and 9:00 a.m. to 5:00 p.m. on weekends.

Criteria for Acceptable Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 13**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 13 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 13: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations.* Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generate excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not located within two miles of a public or private airport, therefore item "c" is not discussed any further in this study.

The City of Pacifica General Plan Noise Element does not establish any specific criteria for evaluating noise level increases. Therefore, the following increase criteria are recommended.

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas." Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. **Table 14** is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 14: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, Ldn	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on the **Table 14** data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB Ldn, or 3 dB or more where existing noise levels are between 60 to 65 dB Ldn. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB Ldn. The rationale for the **Table 14** criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Noise Level Increase Criteria for Short-Term Noise Level Increases

For short-term noise associated with project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans 2011).

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

IMPACT 1: WOULD THE PROJECT GENERATE A SUBSTANTIAL TEMPORARY OR PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE VICINITY OF THE PROJECT IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?

Exterior noise at New Sensitive Receptors

Based upon ambient noise measurements conducted on the project site, exterior noise levels ranged between 52-63 dBA Ldn. This exceeds the City of Pacifica existing General Plan standard of 60 dBA Ldn but complies with the proposed General Plan update standard of 65 dBA Ldn.

The City of Pacifica general plan requires that where noise levels exceed 60 dBA, noise reduction measures must be incorporated into the design of the project to attenuate exterior noise levels listed in Table 9-2. For residential land uses, the interior noise level must be 45 dBA or less. Standard construction methods typically yield a 25 dBA noise reduction. Where noise levels reach 63 dBA L_{dn} the interior noise level would be 38 dBA. This complies with City of Pacifica allowable traffic noise exposure limits. This is a **less-than-significant** impact and no mitigation is required.

Traffic Noise Increases

The CEQA guidelines specify criteria to determine the significance of traffic noise impacts. Where existing traffic noise levels are greater than 65 dB L_{dn}, at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in roadway noise levels will be considered significant. The maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 0.1 dBA.

Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant***.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Based upon the **Table 8** data, the proposed project is predicted to generate construction noise levels ranging between 38-66 dBA L_{dn} at the nearest noise-sensitive receptors (excluding use of pile drivers). Measured ambient noise levels were found to be between 52-58 dBA L_{dn} in the vicinity of these uses. Therefore, the proposed project construction could result in periods of typical construction noise +0 to +8 dBA higher than ambient noise in the project area. However, pile driving activities during foundation construction would result in substantially higher noise levels with increases in ambient noise of approximately 14-19 dBA.

The City of Pacifica Noise Ordinance exempts construction activities from the noise standards, provided that they take place between the hours of 7:00 AM and 6:00 PM Monday through Saturday and 9:00 AM and 6:00 PM Sundays and holidays.

Construction activities (excluding pile driving) could result in periods of noise which exceed existing noise levels by up to 8 dBA. This complies with the 12 dBA increase criteria. However, pile driving is predicted to result in noise level increases of 14-19 dBA, thereby exceeding the 12 dBA increase criteria.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise, especially pile driving, could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered ***significant***.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

MM1: *Prior to issuance of a grading permit, the project applicant shall prepare a construction noise management plan that identifies measures to be taken to minimize construction noise on surrounding sensitive land uses and include specific noise management measures to be included within the project plans and specifications, subject to review and approval by the City Planning Division. The project applicant shall demonstrate, to the satisfaction of the City that the project complies with the following:*

- *Construction activities shall only take place between the hours limited 7:00 a.m. to 6:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on Saturday and Sunday.*

- *All heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition.*
- *All mobile or fixed noise producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulations while in the source of project activity.*
- *Where feasible, electrically-powered equipment shall be used instead of pneumatic or internal combustion powered equipment.*
- *All stationary noise-generating equipment shall be located as far away as possible from neighboring property lines.*
- *Signs prohibiting unnecessary idling of internal combustion engines shall be posted.*
- *A truck route haul plan shall be created to avoid residential areas.*
- *The use of noise-producing signals, including horns, whistles, alarms and bells shall be for safety warning purposes only.*
- *Notify neighbors within 500 feet of the construction site of the construction schedule and that there could be noticeable vibration levels resulting from pile driving.*
- *Foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile.*
- *Jet or partially jet piles into place to minimize the number of impacts required to seat the pile.*
- *For impact pile driving, multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced.*
- *For impact pile driving, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses.*
- *A noise complaint coordinator shall be retained amongst the construction crew to be responsible for responding to any local complaints about construction noise. When a complaint is received, the coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the City.*

IMPACT 2: WOULD THE PROJECT GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 9** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet (excluding pile driving). Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

For pile driving activities, uses located within approximately 50-100 feet could experience levels of vibration exceeding 0.2 in/sec PPV. Therefore, this impact is **significant**.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

MM2: *A construction vibration monitoring plan shall be implemented to document conditions prior to, during, and after pile driving. The construction vibration monitoring plan should be implemented to include the following tasks:*

- *Identification of sensitivity to ground-borne vibration of nearby structures. A vibration survey (generally described below) would need to be performed.*
- *Performance of a photo survey, elevation survey, and crack monitoring survey for each of these structures. Surveys shall be performed prior to any pile driving activity, in regular interval during pile driving, and after completion and shall include internal and external crack monitoring in structures, settlement, and distress and shall document the condition of foundations, walls and other structural elements in the interior and exterior of said structures.*
- *Development of a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted, set up a vibration monitoring schedule, define structure-specific vibration limits, and address the need to conduct photo, elevation, and crack surveys to document before and after pile driving. Alternative construction methods would be identified for when vibration levels approach safe limits.*

- *If vibration levels approach limits, suspend construction and implement alternative construction methods to either lower vibration levels or secure the affected structures.*
- *Conduct post-survey on structures where either monitoring has indicated high levels or complaints of damage has been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.*

IMPACT 3: FOR A PROJECT LOCATED WITHIN THE VICINITY OF A PRIVATE AIRSTRIP OR AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

There are no airports in the project vicinity. Therefore, this impact is not applicable to the proposed project.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

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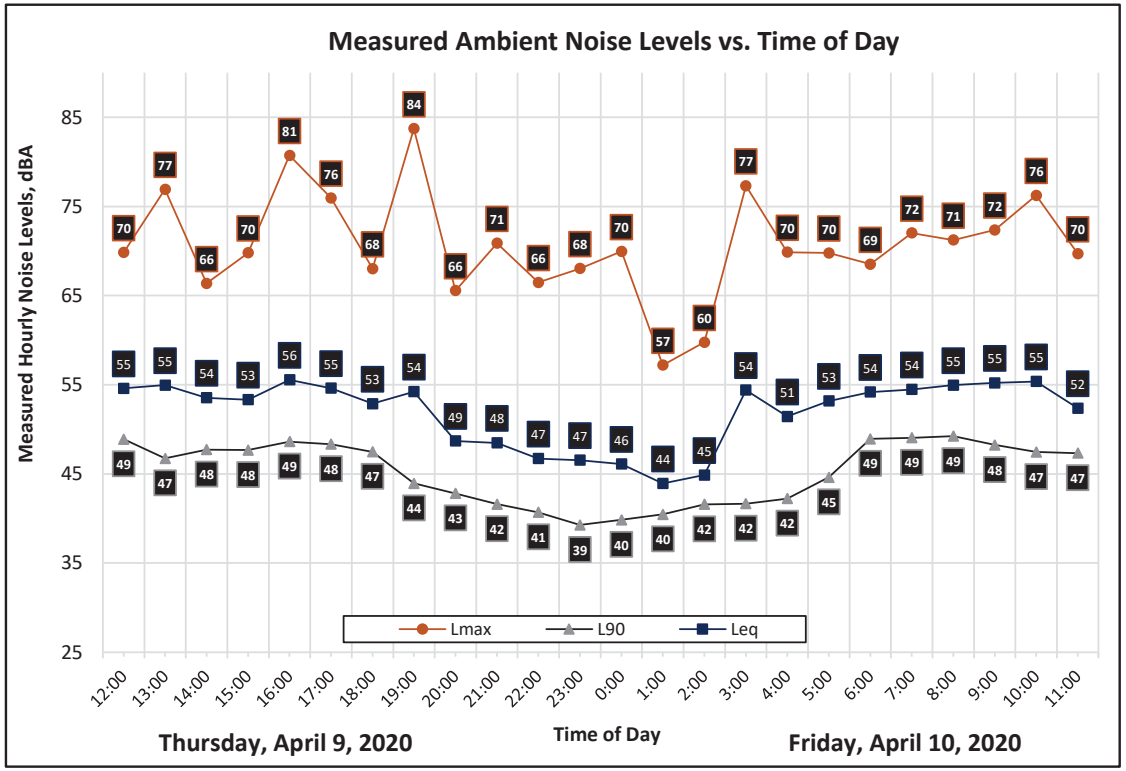
Appendix B: Continuous and Short-Term Ambient Noise Measurement Results

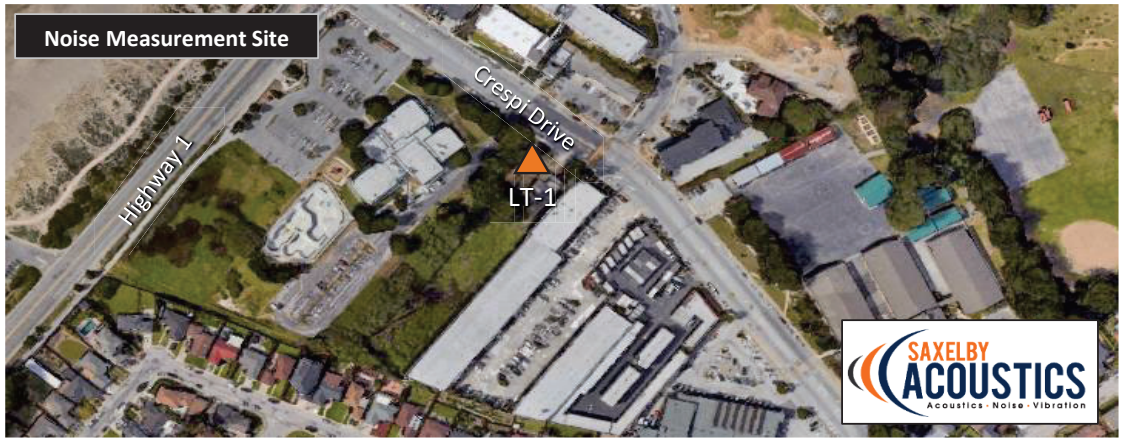
Appendix B1: Continuous Noise Monitoring Results

Site: LT-1
Project: 570 Crespi Drive IS
Location: Northern Project Boundary
Coordinates: 37.5984580°, -122.4989071°
Meter: LDL 820-1
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, April 9, 2020	12:00	55	70	53	49
Thursday, April 9, 2020	13:00	55	77	51	47
Thursday, April 9, 2020	14:00	54	66	52	48
Thursday, April 9, 2020	15:00	53	70	51	48
Thursday, April 9, 2020	16:00	56	81	52	49
Thursday, April 9, 2020	17:00	55	76	51	48
Thursday, April 9, 2020	18:00	53	68	51	47
Thursday, April 9, 2020	19:00	54	84	48	44
Thursday, April 9, 2020	20:00	49	66	46	43
Thursday, April 9, 2020	21:00	48	71	45	42
Thursday, April 9, 2020	22:00	47	66	43	41
Thursday, April 9, 2020	23:00	47	68	42	39
Friday, April 10, 2020	0:00	46	70	42	40
Friday, April 10, 2020	1:00	44	57	43	40
Friday, April 10, 2020	2:00	45	60	43	42
Friday, April 10, 2020	3:00	54	77	45	42
Friday, April 10, 2020	4:00	51	70	45	42
Friday, April 10, 2020	5:00	53	70	50	45
Friday, April 10, 2020	6:00	54	69	52	49
Friday, April 10, 2020	7:00	54	72	52	49
Friday, April 10, 2020	8:00	55	71	53	49
Friday, April 10, 2020	9:00	55	72	52	48
Friday, April 10, 2020	10:00	55	76	52	47
Friday, April 10, 2020	11:00	52	70	50	47

Statistics	Leq	Lmax	L50	L90
Day Average	54	73	51	47
Night Average	51	67	45	42
Day Low	48	66	45	42
Day High	56	84	53	49
Night Low	44	57	42	39
Night High	54	77	52	49
Ldn	58	Day %		78
CNEL	58	Night %		22





Appendix B2: Short Term Noise Monitoring Results

Site: ST-1
Project: 570 Crespi Drive
Location: South of Project Site
Coordinates: 37.5970769°, -122.4999696°

Meter: LDL 831-4
Calibrator: CAL200

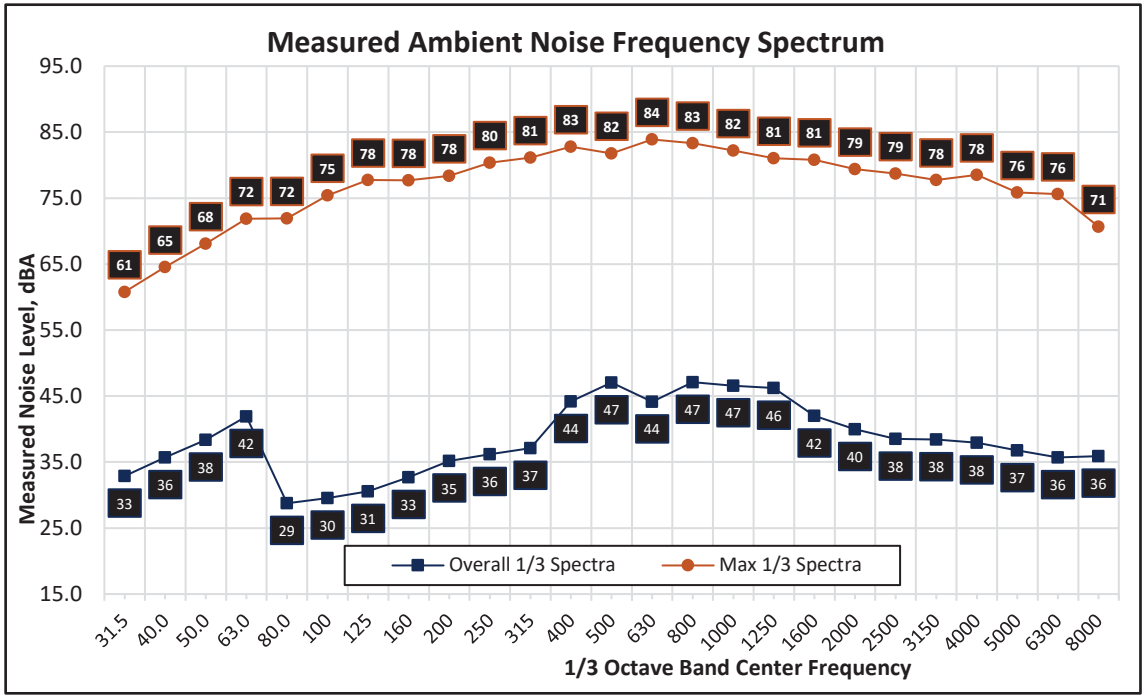
Start: 2020-04-09 13:05:52
Stop: 2020-04-09 13:15:52
SLM: Model 831
Serial: 2893

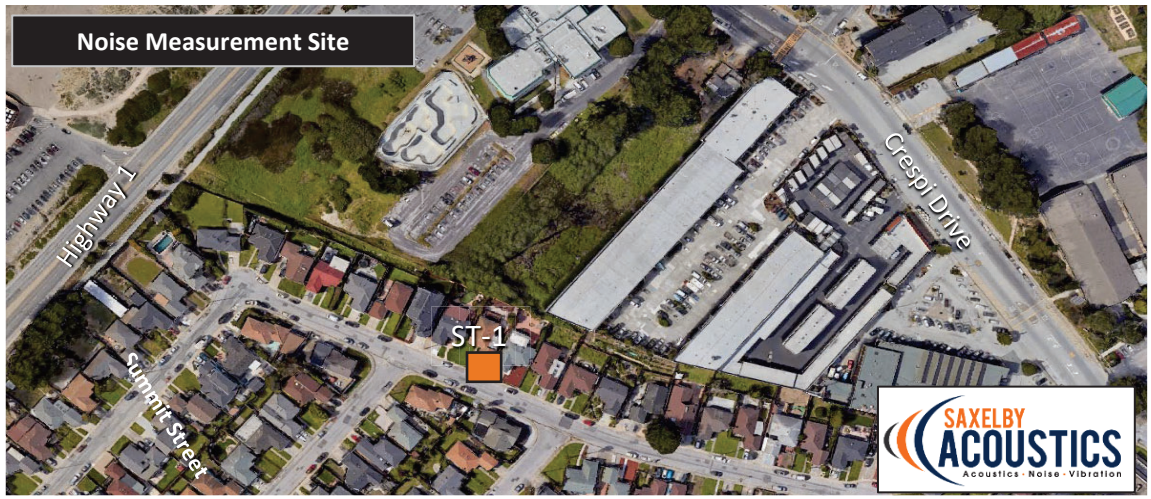
Measurement Results, dBA

Duration:	0:10
L_{eq}:	55
L_{max}:	93
L_{min}:	40
L_{50}:	44
L_{90}:	42

Notes

Highway 1 audible. Lmax caused by passing cars on Anza Drive.





Appendix B3: Short Term Noise Monitoring Results

Site: ST-2
Project: 570 Crespi Drive
Location: Center of Project Site
Coordinates: 37.5979586°, -122.4992836°

Meter: LDL 831-4
Calibrator: CAL200

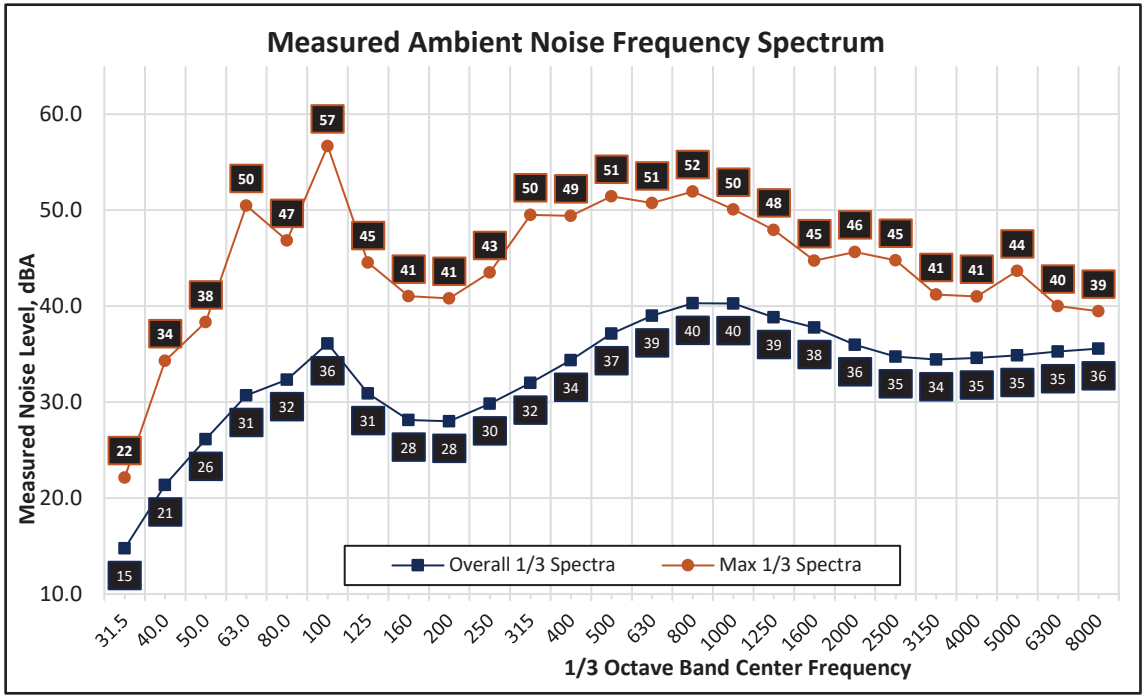
Start: 2020-04-10 13:21:54
Stop: 2020-04-10 13:31:54
SLM: Model 831
Serial: 2893

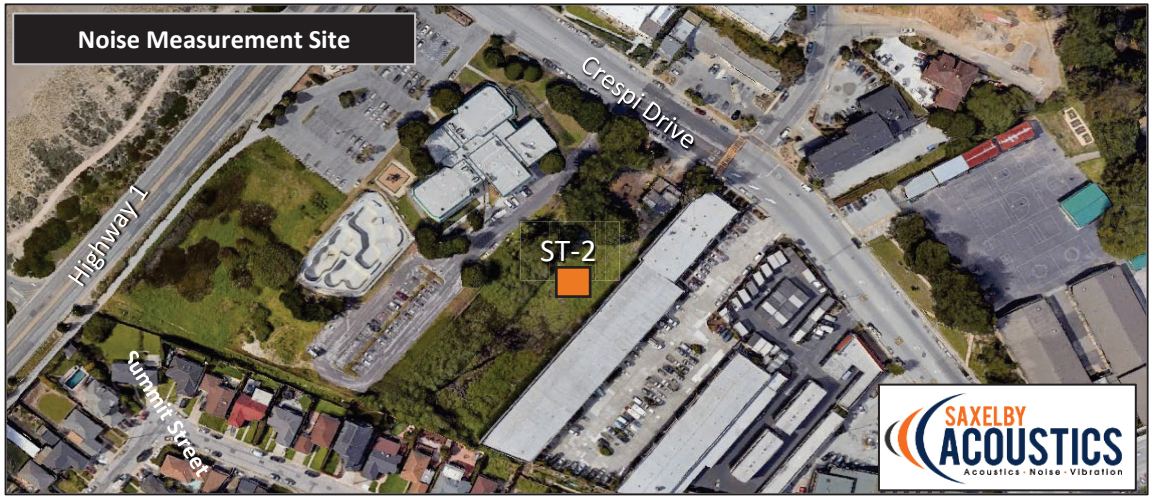
Measurement Results, dBA

Duration:	0:10
L_{eq}:	48
L_{max}:	58
L_{min}:	43
L_{50}:	47
L_{90}:	45

Notes

Highway 1 is primary noise source. Lmax caused by passing vehicle on Crespi Drive.





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Appendix C: Traffic Noise Calculation Inputs and Results

Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,440	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.6
2	Highway 1	North of Linda Mar Boulevard	24,620	78	0	22	1.0%	1.0%	45	100	0	315	146	68	67.5
3	Highway 1	North of Crespi Drive	29,740	78	0	22	1.0%	1.0%	45	60	0	357	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	24,960	78	0	22	1.0%	1.0%	45	110	0	318	148	68	66.9
6	Highway 1	North of Fassler Avenue	40,210	78	0	22	1.0%	1.0%	45	60	0	437	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,500	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.6
8	Highway 1	North of Reina Del Mar Avenue	42,230	78	0	22	1.0%	1.0%	45	50	0	451	209	97	74.3

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Appendix C-2
FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Existing Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-3
FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 191204
Description: 570 Crespi Drive IS - Background
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 191204
Description: 570 Crespi Drive IS - Background Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-5
FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Cumulative
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,990	78	0	22	1.0%	1.0%	25	50	0	104	48	22	64.8
2	Highway 1	North of Linda Mar Boulevard	25,140	78	0	22	1.0%	1.0%	45	100	0	319	148	69	67.6
3	Highway 1	North of Crespi Drive	30,210	78	0	22	1.0%	1.0%	45	60	0	361	168	78	71.7
4	Crespi Drive	East of Highway 1	7,130	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.7
5	Highway 1	South of Crespi Drive	25,480	78	0	22	1.0%	1.0%	45	110	0	322	150	69	67.0
6	Highway 1	North of Fassler Avenue	40,840	78	0	22	1.0%	1.0%	45	60	0	441	205	95	73.0
7	Fassler Avenue	East of Highway 1	11,760	78	0	22	1.0%	1.0%	25	65	0	85	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,860	78	0	22	1.0%	1.0%	45	50	0	456	212	98	74.4

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Appendix C-6
FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	16,010	78	0	22	1.0%	1.0%	25	50	0	104	48	22	64.8
2	Highway 1	North of Linda Mar Boulevard	25,160	78	0	22	1.0%	1.0%	45	100	0	320	148	69	67.6
3	Highway 1	North of Crespi Drive	30,270	78	0	22	1.0%	1.0%	45	60	0	361	168	78	71.7
4	Crespi Drive	East of Highway 1	7,210	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.7
5	Highway 1	South of Crespi Drive	25,500	78	0	22	1.0%	1.0%	45	110	0	322	150	69	67.0
6	Highway 1	North of Fassler Avenue	40,900	78	0	22	1.0%	1.0%	45	60	0	442	205	95	73.0
7	Fassler Avenue	East of Highway 1	11,760	78	0	22	1.0%	1.0%	25	65	0	85	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,920	78	0	22	1.0%	1.0%	45	50	0	456	212	98	74.4

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Appendix B

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

October 28, 2024

Brianne Harkousha
City of Pacifica, Planning Department
1800 Francisco Boulevard
Pacifica, CA 94044
BHarkousha@pacifica.gov

Subject: 570 Crespi Drive Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2021120126, City of Pacifica, San Mateo County

Dear Brianne Harkousha:

The California Department of Fish and Wildlife (CDFW) has reviewed the City of Pacifica (City) Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the 570 Crespi Drive Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect fish and wildlife resources of the State. Please be advised, by law, CDFW may be required to carry out or approve aspects of the Project through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW is providing the City, as the Lead Agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the EIR (Cal. Code Regs., tit. 14, § 15082, subd. (b)).

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) For purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. For example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority, if the Project impacts the bed, channel or bank of any river, stream or lake within the State (Fish & G. Code, § 1600 et seq.). Likewise, to the extent the Project may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

REGULATORY REQUIREMENTS

California Endangered Species Act

A CESA Incidental Take Permit (ITP) must be obtained from CDFW if the Project has the potential to result in "take" of plants or animals listed under CESA, either during

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

construction or over the life of the Project. Under CESA, “take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” (Fish & G. Code, § 86.) CDFW’s issuance of an ITP is subject to CEQA and to facilitate permit issuance, any project modifications and mitigation measures must be incorporated into the CEQA document analysis, discussion, and mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA permit.

CEQA requires a mandatory finding of significance if a project is likely to substantially impact threatened or endangered species. Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065.) In addition, pursuant to CEQA, the lead agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports findings of overriding consideration for impacts that remain significant despite the implementation of all feasible mitigation. Findings of consideration under CEQA, however, do not eliminate the Project proponent’s obligation to comply with the Fish and Game Code.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting river, lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final EIR and complied with its responsibilities as a responsible agency under CEQA.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

PROJECT DESCRIPTION AND LOCATION SUMMARY

Proponent: Brendan Murphy

Objective: The objective of the Project is to purchase a parcel (APN 022-162-420, located at 540 Crespi Drive) from the City of Pacifica, and combine 0.7 acres of that parcel with the entirety of the 0.98-acre lot (APN 022-162-310), located at 570 Crespi Drive. This new 1.68-acre parcel would be developed with one two-story mixed-use building and two three-story residential buildings, including one commercial condominium and 19 residential condominiums, along with a new driveway and parking spaces.

Location: 570 Crespi Drive, Pacifica, San Mateo County, Crossroads: Anza Drive and Cabrillo Hwy, 37.597975, -122.499232.

Timeframe: Approximately summer 2025 through early 2027.

The CEQA Guidelines (§§15124 & 15378) require that the draft EIR incorporate a full Project description, including reasonably foreseeable future phases of the Project, and that contains sufficient information to evaluate and review the Project's environmental impact. Please include a complete description of the following Project components in the Project description including, but not limited to, the below information.

- Land use changes resulting from, for example, rezoning certain areas.
- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes.
- Area and plans for any proposed buildings/structures, ground-disturbing activities, fencing, paving, stationary machinery, landscaping, and stormwater systems.
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features.
- Construction schedule, activities, equipment, and crew sizes.

ENVIRONMENTAL SETTING

Sufficient information regarding the environmental setting is necessary to understand any potentially significant impacts on the environment of the proposed Project and any alternatives identified in the draft EIR (CEQA Guidelines, §§15125 & 15360). CDFW recommends the draft EIR provide baseline habitat assessments for special-status plant, fish and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, and endangered species (CEQA Guidelines, §15380). The draft EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or State, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see:https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities#sensitive%20natural%20communities), and any stream or wetland set back distances the City may require. Fully protected, threatened or endangered, candidate, and other special-status species or sensitive natural communities that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to:

Common Name	Scientific Name	Status
California red-legged frog (CRLF)	*Rana draytonii*	FT, SSC
Big free-tailed bat	*Nyctinomops macrotis*	SSC
Merlin	*Falco columbarius*	WL
Myrtle's silverspot butterfly	*Speyeria zerene myrtleae*	FE, ICP
Obscure bumble bee	*Bombus calignosus*	ICP
San Francisco garter snake (SFGS)	*Thamnophis sirtalis tetrataenia*	FE, SE, SP
Steelhead – Central California Coast DPS	*Oncorhynchus mykiss irideus*	FT, SSC
Western bumble bee	*Bombus occidentalis*	CE, ICP
Franciscan thistle	*Cirsium andrewsii*	CRPR 1B.2

Common Name	Scientific Name	Status
Kellogg's horkelia	*Horkelia cuneata* var. *sericea*	CRPR 1B.1
Pappose tarplant	*Centromadia parryi* ssp. *Parryi*	CRPR 1B.2
Perennial goldfields	*Lasthenia californica* ssp. *Macrantha*	CRPR 1B.2
Robbin's broomrape	*Aphyllon robbinsii*	CRPR 1B.1
Rose leptosiphon	*Leptosiphon rosaceus*	CRPR 1B.1
San Francisco spineflower	*Chorizanthe cuspidata* var. *cuspidata*	CRPR 1B.2
San Francisco collinsia	*Collinsia multicolor*	CRPR 1B.2
Scouler's catchfly	*Silene scouleri* ssp. *scouleri*	CRPR 2B.2
Nesting birds		
Bats		
Rare plants		
Other aquatic and riparian species		
Notes: FT = listed as threatened under the federal Endangered Species Act; FE = listed as endangered under the federal Endangered Species Act; ST = listed as threatened under CESA; SE = listed as endangered under CESA; SSC = state species of special concern; SP = state listed as fully protected; CE = state candidate endangered; CRPR = California Rare Plant Rank; WL = state watch list; ICP = California Terrestrial and Vernal Pool Invertebrate of Conservation Priority.		

Habitat descriptions and species profiles included in the draft EIR should include robust information from multiple sources: aerial imagery; historical and recent survey data; field reconnaissance; scientific literature and reports; U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Consultation System; California Aquatic Resources Inventory; and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Only with sufficient data and information can the City adequately assess which special-status species are likely to occur in the Project vicinity.

CDFW recommends surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol.

Botanical surveys for special-status plant species, including those listed by the California Native Plant Society (http://www.cnps.org/cnps/rareplants/inventory/), should also be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and include the identification of reference populations. Please refer to CDFW protocols for surveying and evaluating impacts to rare plants available at: https://www.wildlife.ca.gov/Conservation/Plants.

IMPACT ANALYSIS AND MITIGATION MEASURES

The CEQA Guidelines (§15126.2) necessitate the draft EIR discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project. This includes evaluating and describing impacts such as:

- Land use changes that would reduce open space or agricultural land uses and increase residential or other land use involving increased development;
- Changes in hydrological conditions that could alter the timing and magnitude of streamflow both during construction and operation of the Project;
- Potential for impacts to special-status species;
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features (e.g., snags, roosts, overhanging banks);
- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; and
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.
- Water quality impacts resulting from construction and operation of the Project;
- Impacts both from construction and operation of the Project;
- Impacts to the bed, channel, and bank, in the reservoirs and creeks downstream of the Project; and
- Impacts to bed, channel, bank, and riparian habitat, and the direct and indirect effects to fish, wildlife, and their habitat;

The CEQA document also should identify existing and reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to each impact (CEQA Guidelines, §15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact (e.g., reduction of available habitat for a listed species) should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

The CEQA Guidelines direct the City, as the Lead Agency, to consider and describe in the draft EIR all feasible mitigation measures to avoid and/or mitigate potentially significant impacts of the Project on the environment based on comprehensive analysis of the potential direct, indirect, and cumulative impacts of the Project. (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370.) This should include a discussion of take avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with the USFWS, the National Marine Fisheries Service and CDFW. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

Fully protected species, such as SFGS, may not be taken or possessed at any time and no licenses or permits may be issued for their take except as follows:

- Take is for necessary scientific research;
- Efforts to recover a fully protected, endangered, or threatened species;
- Live capture and relocation of a bird species for the protection of livestock; or

- They are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish and G. Code §§ 3511, 4700, 5050, & 5515).

Specified types of infrastructure projects may be eligible for an incidental take permit for unavoidable impacts to fully protected species if certain criteria are met (Fish & G. Code § 2081.15). Project proponents should consult with CDFW early in the project planning process.

COMMENTS AND RECOMMENDATIONS

Based on the information provided in the NOP of a draft EIR CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and/or indirect impacts on fish and wildlife (biological) resources. **These comments and recommendations are not an exhaustive list and CDFW may provide additional recommendations as more Project specific information is disclosed. The draft EIR must include a full Project Description, Environmental Setting, and Impact Analysis and Mitigation Measures as outlined above.** Editorial comments or other suggestions may also be included to improve the document.

COMMENT 1: San Francisco Garter Snake

Issue: The Project is located within one mile of areas where SFGS, a state and federally listed endangered species and state fully protected species, is known to occur (CNDDB 2024, iNaturalist 2024). The Project is immediately adjacent to wetlands and associated uplands that may provide habitat for SFGS.

Evidence impact would be significant: SFGS are endemic snakes with a highly limited range in the San Francisco Peninsula. They are threatened by loss of habitat from agricultural, commercial, and urban development, illegal collection by reptile breeders, and decline of their prey species, CRLF (USFWS 2007, USFWS 2020). Project activities could impact upland habitat used for shelter, and vehicles or heavy equipment operated at the Project site could roll over basking SFGS, causing injury or mortality, and could result in a substantial reduction to SFGS populations.

Recommendation: CDFW recommends the draft EIR provide a detailed SFGS habitat assessment at and near the Project site, including identification of upland sites for basking; rodent burrows for shelter; and slow, flowing aquatic habitat, such as streams and low-lying marshes for feeding and reproduction. A qualified biologist should conduct the habitat assessment prior to initiating Project activities. A qualified biologist is an individual who holds a bachelor's degree from an accredited university and: 1) is knowledgeable in relevant species' life histories and ecology, 2) can correctly identify relevant species, 3) has conducted field surveys for relevant species, 4) is familiar with relevant survey protocols, and 5) is knowledgeable of state and federal laws regarding the protection of sensitive species.

If the habitat assessment described above identifies potentially suitable SFGS habitat at or near the Project site, the draft EIR should identify whether the habitat can be avoided and how take of SFGS will be avoided. The draft EIR should also incorporate avoidance measures in coordination with CDFW, as appropriate.

COMMENT 2: California Red-Legged Frog

Issue: The Project site is half a mile from areas where CRLF, a federally threatened and state special status species, is known to occur (CNDDB 2024). The Project site is immediately adjacent to wetland habitat that could support populations of CRLF.

Evidence impact would be significant: CRLF populations throughout the State have experienced ongoing and drastic declines and many have been extirpated. CRLF

primarily inhabit waterways including marshes, streams, and lagoons, and the species will also breed in ephemeral waters (Thomson et al. 2016). Habitat loss from growth of cities and suburbs, invasion of nonnative plants, impoundments, water diversions, stream maintenance for flood control, degraded water quality, and introduced predators, such as bullfrogs (*Lithobates catesbeianus)* are the primary threats to CRLF (Thomson et al. 2016, USFWS 2017). Project land development could impact CRLF populations that may exist within the vicinity of the Project Site through loss of upland habitat used for feeding and shelter or through impacts to adjacent wetland habitat, including but not limited to pollutant or sediment runoff into wetlands as a result of Project activities.

Recommendation: To evaluate potential impacts to CRLF, CDFW recommends that a qualified wildlife biologist conduct a site assessment for CRLF in accordance with the USFWS "Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog" (USFWS 2005) to determine if CRLF are likely to be within or adjacent to the Project area. Results of the site assessment should be included in the draft EIR.

If the site assessment indicates that CRLF could occur at the Project site, then the draft EIR should require that a qualified biologist conduct pre-construction surveys prior to commencement of construction. If any CRLF are found during pre-construction surveys or at any time during construction, the qualified biologist should immediately inform CDFW and USFWS; consultation with USFWS is warranted to determine if the Project can avoid take. In addition, If CRLF could occur on site, then CDFW recommends that initial ground-disturbing activities be timed to avoid the period when CRLF are most likely to be moving through upland areas (November 1 and March 31). When ground-disturbing activities must take place between November 1 and March 31, CDFW recommends a qualified biologist monitor construction activity daily for CRLF.

COMMENT 3: Tree removal and bird impacts

Issue: The Project proposes to remove several large trees which, along with adjacent wetland habitat, may provide habitat for a variety of nesting birds. Additionally, the glass used for exterior building windows could result in bird collisions, which can cause bird injury and mortality.

Evidence impact would be significant: Human activity and removal of habitat has contributed to the loss of a significant proportion of the total number of birds in the United States and Canada since the 1970s (Rosenburg et al. 2019). Nesting birds may be disturbed by Project noise or human presence, which could lead to nest abandonment or reduced health and vigor of young, a potentially significant impact. Additionally, birds cannot typically see clear or reflective glass, and can collide with glass (e.g., windows) that reflect surrounding landscape and/or habitat features (Klem and Saenger 2013, Sheppard 2019). When birds collide with glass, they can be injured or killed. In the United States, the estimated annual bird mortality is between 365-988 million birds (Loss et al. 2014). The Project proposes to remove large trees and construct three residential buildings, which could impact birds nesting in trees or adjacent wetland habitat during construction as well as after Project completion.

Recommendation: If vegetation removal and other construction-related activities are scheduled during the nesting season, February 1 to September 1, CDFW recommends a focused survey for active nests be conducted by a qualified biologist within seven days prior to the beginning of Project-related activities. If an active nest is found, the qualified biologist should delineate a no-work-zone buffer distance around the nest that is site- and species-specific using high visibility fencing or flagging. The buffer distance should be specified to protect the bird's normal behavior and prevent nesting failure or abandonment. No work should occur within the no-work zone until the nest is no longer active, as determined by a qualified biologist. If a lapse in Project-related work of seven days or longer occurs, another focused survey should occur before Project work is reinitiated.

CDFW also recommends incorporating visual signals or cues to exterior windows to prevent bird collisions. Visual signals or cues include, but are not limited to, patterns to break up reflective areas, external window films and coverings, ultraviolet patterned glass, and screens. For best practices on how to reduce bird collisions with windows, please go to the USFWS's website for Buildings and Glass (https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/buildings-and-glass.php).

COMMENT 4: Habitat connectivity

Issue: The Project site is currently undeveloped, supporting several large trees with herbaceous groundcover in the northern portion of the site, with gradual domination of wetland vegetation and a seasonal drainage area providing riparian habitat in the southern portion of the project site. The proposed Project would involve disturbance of existing on-site habitat through development of the site including removal of vegetation and construction of three buildings, which could impact connectivity between upper watershed habitat and the Pacific coast.

Evidence impact would be significant: Landscape connectivity is vital to conserving resilient wildlife populations, particularly those that have already been severely impacted by human development activities (Serieys et al. 2020). Preservation or restoration of patches of habitat is required to maintain connectivity, in conjunction with identification and mitigation of factors that limit movement, both within individual parcels and across landscapes. The Project site could offer a linkage to the Pacific coast or the nearby San Pedro Creek for migratory species, and development of the on-site habitat could result in significant adverse impacts to area-sensitive, barrier-sensitive, or less mobile migratory species (Spencer et al. 2010).

Recommendation: CDFW recommends that a qualified biologist conduct a biological resource assessment of the Project site and adjacent habitat the Project could impact and incorporate it into the initial study and draft EIR. Permanent loss of habitat caused by Project activities should be mitigated by establishing permanent preservation of the wetlands area of the Project site through a conservation easement and provision of an endowment for long-term management. Alternately, the project proponent could mitigate permanent impacts from the Project through purchasing mitigation or conservation bank credits, if bank credits are available for the area. CDFW recommends consulting with CDFW scientists to determine appropriate mitigation for the draft EIR.

COMMENT 5: Special-status plants

Issue: The Project site contains wetland and upland habitat that may be suitable for special-status plants. The Project has the potential to crush and kill special-status plants during ground-disturbing activities, permanently remove habitat, and permanently alter the hydrology of the site by increasing impermeable surfaces and redirecting storm water. Without floristic botanical surveys, the Project would not accurately identify special-status plant occurrences and could impact them.

Recommendation: To reduce potential impacts to special-status plants to less-than-significant, CDFW recommends the following mitigation measure.

Mitigation Measure BIO-1: Special-status Plant Survey and Avoidance: A qualified botanist shall conduct surveys during the appropriate blooming period for all special-status plants that have the potential to occur on or adjacent to the Project area prior to the start of ground-disturbing activities and prepare a report documenting survey findings, to be incorporated into the EIR. Habitat adjacent to the Project area should be surveyed if the Project may have indirect impacts off-site as a result of changes to hydrological conditions or other indirect impacts. More than one year of surveys may be necessary. Surveys and reporting shall be conducted following *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive*

Natural Communities. Surveys shall be submitted to CDFW for review and written acceptance. If special-status plants are found during surveys, the Project shall be re-designed to avoid impacts to special-status plants. If impacts to any special-status plants cannot be avoided completely during the Project, the Project shall provide mitigation including onsite restoration and a restoration plan approved by CDFW, off-site habitat preservation at a 3:1 mitigation to impact ratio based on acreage or number of plants, as appropriate, or another method accepted in writing by CDFW. The qualified botanist shall be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to vetted protocols.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to prepare subsequent CEQA documents or to make supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (d) & (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be filled out and submitted online here: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found here: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

CDFW anticipates that the proposed Project, will have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP of a draft EIR in order to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Shannon Husband, Environmental Scientist, at (707) 337-1364 or Shannon.Husband@Wildlife.ca.gov; or Wes Stokes, Senior Environmental Scientist (Supervisory) at (707) 339-6066 or Wesley.Stokes@Wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2021120126)
City of Pacifica, PlanningDivision@pacifica.gov

REFERENCES

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California Department of Transportation

DISTRICT 4
OFFICE OF REGIONAL AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

November 1, 2024

SCH #: 2021120126
GTS #: 04-SM-2021-00630
GTS ID: 24973
Co/Rt/Pm: SM/1/41.25

Brianne Harkousha, Senior Planner
City of Pacifica
170 Santa Maria Ave
Pacifica, CA 94044-2506

Re: 570 Crespi Drive Project – Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR)

Dear Brianne Harkousha:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 570 Crespi Drive Project. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities. The following comments are based on our review of the October 2024 NOP.

Please note this correspondence does not indicate an official position by Caltrans on this project and is for informational purposes only.

Project Understanding
The proposed project would develop one two-story mixed-use building and two three-story residential buildings to construct one commercial condominium and 19 residential condominiums on a 1.68-acre parcel. Proposed off-site improvements for the project include the removal of two trees and construction of a new driveway and associated parking spaces at the northern portion of the existing adjacent Pacific Community Center. The off-site improvements are directly adjacent to a State-owned parking lot that is within Caltrans right-of-way (ROW). The project site itself is also within 500 feet of State Route (SR) 1.

Travel Demand Analysis
With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Vehicle

Miles Traveled (VMT) analysis for land use projects, please review Caltrans' Transportation Impact Study Guide (*link*).

Per the Initial Study, this proposed project may have a potentially significant VMT impact which will be further evaluated in the DEIR. Caltrans looks forward to reviewing the project's VMT analysis in the DEIR when it is available.

Construction-Related Impacts
Potential impacts to the State ROW from project-related temporary access points should be analyzed. Mitigation for significant impacts due to construction and noise should be identified. Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, please visit Caltrans Transportation Permits (*link*).

Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network (STN).

Equitable Access
If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Encroachment Permit
Please be advised that any permanent work or temporary traffic control that encroaches onto Caltrans' ROW requires a Caltrans-issued encroachment permit. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating Caltrans' ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement.

The Office of Encroachment Permit requires 100% complete design plans and supporting documents to review and circulate the permit application package. To obtain more information and download the permit application, please visit Caltrans Encroachment Permits (*link*). Please note that the checklist TR-0416 is used to determine the appropriate Caltrans review process for encroachment projects. Your application package may be emailed to D4Permits@dot.ca.gov.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Luana Chen, Transportation Planner, via LDR-D4@dot.ca.gov.

For future early coordination opportunities or project referrals, please visit Caltrans LDR website (*link*) or contact LDR-D4@dot.ca.gov.

Sincerely,

YUNSHENG LUO
Branch Chief, Local Development Review
Office of Regional and Community Planning

c: State Clearinghouse

APPENDIX C

Technical Memorandum

WOOD BIOLOGICAL CONSULTING
PO Box 1569
El Granada, CA 94018
(415) 254-4835
chris@wood-biological.com
www.wood-biological.com

DATE: August 17, 2020
TO: Brendan Murphy, Eamon Murphy
BayWorks Construction, Inc.
P.O. Box 301
San Mateo, CA 94401
FROM: Chris Rogers
SUBJECT: Biological Constraints Analysis - Updated
540 and 570 Crespi Drive, Pacifica CA

A 2014 Biological Constraints Analysis[1] report was prepared in 2014 for the single parcel at 570 Crespi Avenue. The current development proposal for this parcel (referred to herein as the Murphy parcel) now also includes the adjacent parcel at 540 Crespi Avenue (APN 540 and 570 Crespi Drive, in Pacifica, CA (APN 022-162-420 and 022-162-310) which is owned by the City of Pacifica. The parcels are owned by the City of Pacifica and by Brendan and Eamon Murphy, respectively, and are referred to here as the City parcel and the Murphy parcel (see Figures 1 and 2). The two parcels are under consideration for being merged and developed by the Murphys.

A peer review of the original biology report[2] recommended several information items to enable the City to make planning decisions with regard to biological resources. Because the 2014 report is technically sound (according to the peer review), this memorandum focuses on the items that require update or revision. This memorandum amends the 2014 report in response to the following peer review recommendations:

- Include both parcels that are the subject of the current development proposal.
- Include California Rare Plant Rank 3 plants, which should be analyzed during environmental review under CEQA.
- Expand the analysis to include plants, wildlife and natural communities documented in the California Natural Diversity Data Base within five miles of the project site, and preparing an update to Table 1 of the Biological Constraints Report.
- Provide analysis of the potential for California red-legged frog to occupy the site, and avoidance and minimization measures, if warranted.
- Provide discussion on protections for migratory birds subject to the Migratory Bird Treaty Act and California Fish and Game Code, with recommended avoidance and minimization measures.

In addition to these recommendations to address biological resources, the peer review also recommended an update of the aquatic resources delineation (i.e. wetland delineation) subject to state

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[1] Monk & Associates. 2014. *Biological Constraints Analysis, 570 Crespi Drive, City of Pacifica, San Mateo County, California (APNS: 022-162-310) (~1.7 Acres)*. Prepared for SC Properties, San Mateo CA. October 8.

[2] Madrone Ecological Consulting. 2020. *Peer review for the proposed 570 Crespi Drive, City of Pacifica, San Mateo County, California*. Letter to Rod Stinson. Raney Planning and Management, Inc. April 4.

and federal jurisdiction. A separate report prepared by Wood Biological Consulting[3] summarizes the findings of the recently completed delineation of aquatic resources for both the City and Murphy parcels.

Because the site is not located within the Coastal Zone, no Environmentally Sensitive Habitat Areas (ESHA) subject to regulation under the City's Local Coastal Plan were documented.

METHODS

Prior to conducting field data collection, Wood Biological Consulting (WBC) reviewed relevant background information, including:

- California Natural Diversity Database records of special-status plant, animal species and natural communities documented as occurring within five miles of the study area[4]
- U.S. Fish and Wildlife Service (IPac) database for federally listed species and migratory birds[5]
- California Native Plant Society Inventory of Rare and Endangered Plants[6]
- a sequence of aerial photo imagery on Google Earth
- Montara Mountain U.S. Geological Survey 7.5-minute topographic quadrangle map,
- a topographic survey map of the study area
- CEQA documentation of the City's recently completed Wet Weather Equalization Basin[7], which is adjacent to and dues west of the City parcel.

In addition, WBC conferred with Mr. Patrick Kobernus of Coast Ridge Ecology, who acted as the City's biological compliance monitor during construction of the EQ basin in 2017-2018, during which he made direct observations of biological resources in the study area.

A reconnaissance-level survey for biological resources on both parcels was conducted by WBC senior ecologist Chris Rogers on July 19, 2020. This consisted of walking as much of the parcels as were physically accessible (dense and impenetrable willow scrub is limiting over a large portion of the study area), and making observations of habitats plant and wildlife species on and adjacent to the study area.

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[3] Wood Biological Consulting. 2020. *Aquatic Resources Delineation*, *540 and 570 Crespi Drive, Pacifica CA.* Technical Report prepared for BayWorks Construction, Inc.

[4] California Natural Diversity Database (CNDDB). 2020. Version 5.89.14c. *Query for the Montara Mountain and South San Francisco USGS 7.5' Quadrangles*. California Department of Fish and Wildlife, Biogeographic Data Branch. Sacramento, California. Information dated August 1.

[5] United States Fish and Wildlife Service (USFWS). 2020. *IPaC Trust Resource Report for 540 and 570 Crespi Drive.* Information for Planning and Conservation. Report generated July 18 at https://ecos.fws.gov/ipac/

[6] California Native Plant Society (CNPS). 2020. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39). Query for the Montara Mountain and San Francisco South USGS 7.5' Quadrangles. California Native Plant Society, Sacramento, CA. Accessed July 18 at www.rareplants.cnps.org/

[7] Terraphase Engineering, Inc. 2016. *Wet Weather Equalization Basin Project, Draft Mitigated Negative Declaration/Initial Study*. Prepared for City of Pacifica. https://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?BlobID=11510

Botanical taxonomy and nomenclature conforms to The Jepson Manual[8], except for recent revisions posted on the Jepson Online Interchange. Vegetation communities described herein conform to A Manual of California Vegetation[9].

Results of Database queries are included as attachments.

SETTING

The study area is located within the Santa Cruz Mountains subsection of the Central California Coast Section as described in the Ecological Subregions of California[10] (USDA 1997). Vegetation in the study area is not representative of historic conditions, which likely consisted of coastal scrub, coastal dunes and coastal prairie. Currently, the northern portion of the study area supports several large Monterey cypress trees with an understory (groundcover) of predominantly non-native herbaceous vegetation. The southern portion of the study area is slightly lower in elevation gradually becomes dominated by perennial wetland vegetation, such as willows, cattails and sedges.

The study area is situated within a residential and commercial neighborhood of Linda Mar, within the City of Pacifica. The study area ranges from approximately 15 ft elevation (relative to a City benchmark in Crespi Drive) at the northeastern end of the Murphy parcel, to about 9 ft at the southwestern end. The climate is cool and temperate, characteristic of the San Francisco peninsula coastal region. The average annual high temperature in Pacifica is 64°F; the annual average low temperature is 49°F). About 29.5 inches of precipitation falls annually, with the majority of rainfall between October and April[11].

VEGETATION AND WILDLIFE HABITATS

Vegetation within the study area consists of arroyo willow scrub, and emergent marsh, non-native annual grassland, and disturbed and ornamental habitats (figure 3). The following are descriptions of the vegetation types occurring within the wetland delineation study area.

Arroyo Willow Scrub

Willow scrub, dominated by arroyo willow (*Salix lasiolepis*), covers the majority of the southern portion of the study area on both parcels (Figure 3). It also occurs in smaller stands along the western and eastern parcel boundaries. The willows form a dense and impenetrable thicket with few associated plant species. The willow scrub is almost entirely within the delineated wetland boundary; the exception is at the northern extent, where soils and hydrology near the edge of the willows failed to meet jurisdictional criteria.

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[8] Baldwin, B.G, D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. Second edition. Univ. Calif. Press, Berkeley. 1568 pp. Jepson eFlora available online at http://ucjeps.berkeley.edu/IJM.html

[9] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation* (2nd edition). California Native Plant Society, Sacramento. 1300 pp. Available online at http://vegetation.cnps.org/

[10] U.S. Department of Agriculture (USDA). 1997. *Ecological Subregions of California: sections and subsections descriptions. USDA, Forest Service, Pacific Southwest Region.* https://web.archive.org/web/20080304224853/http://www.fs.fed.us/r5/projects/ecoregions/`

[11] https://www.usclimatedata.com/climate/pacifica/california/united-states/usca0822

Emergent Marsh

Emergent marsh occupies a shallow topographic depression in the middle part of the study area (Figure 3), corresponding with the small area that used to have shallow ponded water in the winter. Seasonally high groundwater presumably persists, resulting in a predominance of emergent marsh plant species, such as Baltic rush (*Juncus balticus)*, broadleaf cattail (*Typha angustifolia*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), and dotted smartweed (*Persicaria punctata*), among others. All of the emergent marsh is within the delineated wetland boundary.

Non-native Annual Grassland

Non-native grassland vegetation is present on the majority of the northern part of the study area, including the former residence site (Figure 3). Dominant plant species are annual grasses, such as bromes (*Bromus diandrus, B. hordeaceus*), slender oats (*Avena barbata*), hare barley (*Hordeum murinum* ssp. *leporinum*), and Italian ryegrass (*Festuca perennis*), with various non-native broad-leaf herbaceous species. A small portion of the non-native annual grassland is situated within the delineated wetland boundary, where it appears to be expanding down the topographic gradient in response to drier soil conditions following groundwater pumping during construction of the City's Wet Weather Equalization Basin.

Disturbed and Ornamental

Disturbed habitat includes land cleared of vegetation or lands that have undergone frequent or extensive alteration to the extent that the site is dominated by non-native plant species. This type of habitat also includes areas subject to periodic vegetation management, such as mowing or brush clearing, which preclude the re-establishment of native vegetation communities. Within the study area, a parking area adjacent to Crespi Drive that is used by beach visitors, and a gravel staging area used during construction of the Wet Weather Equalization Basin are disturbed habitat (Figure 3).

Ornamental vegetation consists of maintained and unmaintained landscaping using native and non-native plants. Within the study area, large Monterey cypress trees are remnants of landscaping associated with the former residence on the Murphy parcel. None of this area is within the delineated wetland boundary.

SPECIAL-STATUS SPECIES

The laws comprising California's legal framework and authority for plant species conservation include the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), and California Environmental Quality Act (CEQA). Special-status plants include those listed as endangered, threatened, or rare or as candidates for listing by the USFWS and CDFW[12], as

[12] CDFW. 2020a. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. January 2. 13 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline

well as those with California Rare Plant Rank of 1 through 3[13]. Additional definitions are given in Section 15380 of the CEQA Guidelines.

Special-status animal species include those listed as endangered, threatened, or rare or as candidates for listing by the USFWS and/or CDFW[14]. Other species having special status include the "special animals" listed in the CNDDB[15] and avian species protected under the Bald Eagle Protection Act[16] and the Migratory Bird Treaty Act (MBTA)[17]. The California Fish and Game Code provides protection for "fully protected birds[18]", "fully protected mammals[19]", "fully protected reptiles and amphibians[20]," and "fully protected fish[21]." Title 14 of the California Code of Regulations prohibits the take of amphibians[22], reptiles[23], and furbearers[24] that are listed under CESA, MBTA, or are "fully protected." Additional definitions are given in Section 15380 of the CEQA Guidelines.

Special-status natural communities are known to have limited distribution in the region, support special-status plant or wildlife species, or receive regulatory protection (i.e., waters of the United States, covered under Section 404 of the Clean Water Act [CWA] and/or waters of the State covered under Section 1600, *et seq*., of the California Fish and Game Code and the Porter-Cologne Water Quality Control Act [Water Code Sections 13000–14920]). The California Natural Diversity Data Base (CNDDB) has ranked a number of natural communities in terms of their significance and rarity[25].

Tables 1 and 2 (plants and wildlife, respectively; see attachments) provide an update of the summary table included in the 2014 Biological Constraints Analysis report. Two species, salt marsh common yellowthroat and California red-legged frog, are evaluated in detail, below.

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[13] CDFW. 2020b. *Special Vascular Plants, Bryophytes, and Lichens List.* Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. January. 140 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

[14] CDFW. 2020c. *State and Federally Listed Endangered and Threatened Animals of California.* Biogeographic Data Branch, Natural Diversity Database. July 17. 32 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline

[15] CDFW. 2020d. *Special Animals List*. Natural Diversity Database. July. 120pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

[16] 16 USC 668, et seq.

[17] 16 USC 703-711, as amended

[18] §3511

[19] §4700

[20] §5050

[21] §5515

[22] Chapter 5 §41

[23] Chapter 5 §42

[24] Chapter 5 §460

[25] CDFW. 2019. *California Sensitive Natural Communities*. Biogeographic Data Branch, Natural Diversity Database. November 8. 63 pp. Available online at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline

California red-legged frog

The 2014 Biological Constraints Analysis provided a detailed summary of California red-legged frog (CRLF), including its regulatory status (*i.e.*, federal under the Federal Endangered Species Act, and state protection as a species of special concern), its breeding and dispersal habitat requirements, and environmental conditions that facilitate their movement. The analysis also cited the *USFWS recovery Plan for California Red-Legged Frog* that populations are "most likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal." "The primary constituent elements for California red-legged frogs are aquatic and upland areas where suitable breeding and non-breeding habitat is interspersed throughout the landscape and is interconnected by unfragmented dispersal habitat"[26].

The 2014 Biological Constraints Analysis did not, however provide an analysis of the potential for California red-legged frog to occupy the study area. Based on observations of the emergent wetlands in the study area in July 2020, and conversations with the biologist that monitored the construction of the City's Wet-Weather Equalization Basin, the study area does provide suitable breeding or dispersal habitat for this species[27]. The only potentially aquatic feature is a small area within the emergent marsh vegetation that, in the past, ponded seasonally, but not consistently between and within years. In particular, *permanent* water for the minimum duration of 11-20 weeks required for larval development does not occur. Groundwater level on and around the study area appear to have been drawn down since construction of the Equalization Basin[28].

The nearest population of CRLF is just 0.3 miles south of the study area, in San Pedro Creek, but is separated from by dense residential and commercial development, heavily traveled roads (including Highway 1), and frequently-visited Pacifica State Beach. There are no opportunities for CRLF to successfully disperse to the study area from San Pedro Creek. Similarly, populations of CRLF at Calera Creek (1 mile north of the study area; Occ. #504), Laguna Salada (1.9 miles north; Occ. #455), and in Vallemar (1.6 mile northeast; Occ. #918) are separated from the study area high ridges and other topographic barriers precluding line-of-sight migration, residential development and major roads, including Highway 1.

Therefore, the primary constituent elements in the *Recovery Plan* and cited above are not present. Therefore, avoidance and minimization measures for CRLF are not warranted.

Saltmarsh common yellowthroat

Regulatory Status: FESA: none; CESA: none; CDFW: none (full species); USFWS: Bird of Conservation Concern; Global/State rarity ranking: G5T3/S3.

Description: Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa,* hereafter SCY) is a California Species of Special Concern[29], a Bird Species of Conservation concern[30], and is protected under the

[26] USFWS. 2002. *Recovery Plan for the California Red-legged Frog* (Rana aurora draytonii). Region 1, Portland, Oregon. Viii+173 pp. May 28.
[27] Patrick Kobernus, pers. comm. with C. Rogers. July 20, 2020.
[28] Wood Biological Consulting. *Ibid.*
[29] CDFW. 2020d. *Ibid.*
[30] USFWS. 2020. *Ibid*.

federal Migratory Bird Treaty Act and California Fish and Game Code[31]. Species assigned a ranking of S3 are considered vulnerable, at risk of extirpation in California due to fairly restricted range, relatively very few populations or occurrences, recent or widespread declines, threats, or other factors (CDFW, 2015c). Impacts to nesting saltmarsh common yellowthroat would be a significant adverse impact pursuant to the statutes and guidelines of CEQA; impacts should be addressed in environmental review documents. Impact avoidance measures are warranted, as outlined in the Recommendations section, below.

SCY is a small bird with an olive-brown back and rich yellow throat. This migratory bird ranges from Canada to southern Mexico and winters from the southern United States to the West Indies and Panama. A year-round resident of the San Francisco Bay Area, the SCY inhabits dense vegetation in wetlands, marshes, estuaries, prairies and riparian areas of San Francisco and San Pablo bays, and along the coastal areas of Marin, San Francisco, and San Mateo counties[32].

SCY requires thick, continuous cover down to the water surface for foraging and tall grasses, tule patches or willows for nesting, and forage on insects and spiders on the ground or within dense vegetation[33]. Nests are built near the base of dense vegetation, sometimes over water[34]. Breeding occurs from mid-March to late July, and pair typically double-brood[22, 24].

Critical Habitat: The SCY is not listed under FESA; therefore, Critical Habitat has not been designated for the species.

Habitat Suitability and Probability of Occurrence: The 2014 Biological Constraints Analysis referenced the nearest known record (CNNDB Occ. #5) which is 1.8 miles north of the study area, and acknowledged the potential for the willows on the site to provide migratory habitat, but stated that it the study area provided nesting habitat due to its small area and urban setting. Field observations during the July 2020 survey agree with this, but also note the absence of proximity to water that is usually associated with SCY nests, which further supports the conclusion that the study area is not high quality nesting habitat for this species. SCY was observed in the study area during monitoring of the City's wet-weather equalization basin in 2017-2018[35], although its nesting status was not determined.

Potential Project-Related Effects: Due to the marginal value of nesting habitat, the species may use the willow thicket within the study area for occasional foraging by periodic transitory individuals. Although the removal or pruning of willows on site is not proposed, disturbance from construction activities could result in direct and indirect impacts on breeding SCY and other migratory birds. Disturbance during the nesting season could result in the potential nest abandonment and mortality of young, which would be a

[31] § 3503

[32] Shuford, W.D. and T.G. Gardali. Eds. 2008. *California Bird Species of Special Concern. A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*. Studies of Western Birds No. 1. Western Field Ornithologists, Camarillo, California and California Department of Fish and Game, Sacramento. 65 pp. Available on line at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83841

[33] Guzy and Ritchison, 1999

[34] Baicich and Harrison, 2005

[35] Patrick Kobernus, pers. comm. with C. Rogers. July 20, 2020.

significant adverse effect pursuant to CEQA. Impact avoidance measures are warranted and are outlined in the Recommendations Section, below.

Migratory Birds and Raptors

In addition to special-status birds identified within five miles of the study area in the CNDDB, the USFWS IPaC database also identified 19 species of birds protected under the Migratory Bird Treaty act and Bald Eagle Protection Act, and are considered Bird Species of Conservation Concern. The IPaC database queery results are included in the Attachments. Of the 19 species listed, two raptors (bald eagle and golden eagle) are not expected to occur in the study area based on lack of suitable habitat. Eight species are not expected to occur in the study area because they are marine birds or shorebirds (black oystercatcher, black turnstone, Clark's grebe, long-billed curlew, marbled godwit, short-billed dowitcher, whimbrel, and willet). Suitable nesting habitat for three species (Nuttall's woodpecker, oak titmouse, and tri-colored blackbird) is not present in the study area. The remaining six species (Allen's hummingbird, rufous hummingbird, song sparrow, spotted towhee, wrentit, and saltmarsh common yellowthroat) have low probability of nesting in the study area, but cannot be entirely ruled out. Saltmarsh common yellowthroat is discussed in detail above. Impact avoidance measures are warranted and are outlined in the Recommendations Section, below.

Other Special-Status Species

In addition to the special-status species identified within five miles of the study area in the CNDDB query, several additional special-status species were identified in the USFWS and CNPS database searches. These database searches do not include site-specific observations, but instead document species that may occur nearby based on location or that have been observed within the same USGS quadrangle maps. Federal-listed species identified on the USFWS IPaC database for which no habitat is present in the study area includes: two mammals that are limited to marine or tidal saltmarsh habitats (southern sea otter and salt marsh harvest mouse); five bird species of marine, beach or tidal wetland habitats (Ridgway's [=California] clapper rail, California least tern, marbled murrelet, short-tailed albatross, and western snowy plover; one reptile (green sea turtle); two fish (delta smelt, tidewater goby), and one plant (San Mateo woolly sunflower). The study area also is not within any critical habitat designated for federal listed species. The results of the USFWS IPaC query are provided in the attachments.

A query of the CNPS Inventory generated a list of 66 plant species that have been documented as occurring on the Montara Mountain and San Francisco South USGS quadrangle maps. All 30 plant species identified by CNDDB as occurring within five miles of the study area are included in the CNPS Inventory results as well. The remaining 36 plant species are not considered to have potential to occur in the study area due to lack of suitable habitat (such as chaparral, coastal dunes and scrubs, undisturbed or native grasslands, forest and woodlands, chaparral), absence of specialized soils (such as soils derived from serpentinite), distance from well-documented range of occurrence, or because they are perennial plants that would have been detected at the time of the survey. The results of the CNPS Inventory query are provided in the attachments.

RECCOMENDATIONS

As described above, marginally suitable habitat is present on site for one special-status animal species, saltmarsh common yellowthroat. In addition, raptors and other migratory bird species protected under state and federal law, if nesting on or near the study area during construction, could be adversely affected by the project. These effects could be reduced to a less-than-significant level with incorporation of the following project design features included as part of the proposed project.

1. Special-Status and Migratory Birds

Although removal or pruning of willow trees and shrubs or other vegetation associated with the arroyo willow scrub and emergent marsh vegetation is not proposed, project construction of the project would temporarily increase noise and human activity levels nearby; these activities could result in indirect impacts on birds by disrupting breeding or causing abandonment of occupied nests. If present at the time of construction, such indirect impacts on special-status and migratory birds, including saltmarsh common yellowthroat, would be considered significant pursuant to CEQA.

The 2014 Biological Constraints Analysis recommended, and we concur, that a pre-construction survey be conducted prior to site grading or other construction work if this work occurs between February 1 and August 31 (the CDFW-designated nesting season for birds) to ensure that if saltmarsh common yellowthroat or any other migratory birds nest are nesting near the project site, they will not be affected by the proposed project. If an active nest is discovered, a protective buffer should be designated by a qualified biologist that is of sufficient size to keep the nesting birds, their eggs/young from being harmed by disturbance associated with implementation of a construction project.

To ensure compliance with protections for migratory birds under the Migratory Bird Treaty Act and the California Fish and Game Code, the measures outlined below should be implemented prior to the commencement of construction activities. With the incorporation of the measures outlined below, potential impacts would be reduced to a less-than-significant level pursuant to CEQA.

1. If construction activities are scheduled to occur outside of the breeding season (*i.e.*, September 1 through January 31), no pre-construction surveys or other mitigation measures are necessary.
2. If construction activities are scheduled to occur during the breeding season (i.e., February 1 through August 31), a preconstruction nesting bird survey should be conducted of the wharf structures, the identified work area and a buffer zone (see #3, below). The survey should be performed by a qualified biologist no more than two weeks prior to the initiation of work. If no nesting or breeding activity is observed, work may proceed without restrictions. To the extent allowed by access, all active nests identified within 76 m (250 ft) for raptors and 33 m (100 ft) for passerines should be mapped.
3. For any active nests found near the construction limits (76 m [250 ft] for raptors and 33 m [100 ft] for passerines), the project biologist should make a determination as to whether or not construction activities are likely to disrupt reproductive behavior. If it is determined that construction is unlikely to disrupt breeding behavior, construction may proceed. If it is determined that construction may disrupt breeding, the no-construction buffer zone should be expanded; avoidance is the only mitigation available. The ultimate size of the no-construction buffer zone may be adjusted by the project biologist based on the species involved, topography, lines of site between the work area and the nest, physical barriers, and the ambient level of

human activity. For raptors, the project biologist will contact CDFW and/or the USFWS Division of Migratory Bird Management for guidance regarding site evaluations and buffer adjustments.

If it is determined that construction activities are likely to disrupt raptor breeding, construction activities within the no-construction buffer zone may not proceed until the project biologist determines that the nest is long longer occupied.

4. If maintenance of a no-construction buffer zone is not practicable, active nests should be monitored by a qualified biologist to document breeding and rearing behavior of the adult birds. If it is determined that construction activities might cause nest abandonment, work should cease until the project biologist determines that the nest is long longer occupied. For raptors, the CDFW and/or the USFWS Division of Migratory Bird Management should be contacted for guidance.

2. Temporary Sediment and Debris Barrier and Wildlife Exclusion Fence

Prior to the start of construction, a temporary sediment and debris barrier will be installed on the southern limit of the construction area that slopes toward the arroyo willow and emergent wetland habitat (see Figure 3). The fence also will double as a wildlife exclusion fence during construction. The fence will consist of standard construction silt fence material with a height of 36 inches. The lower six inches of fence material will either be folded toward the construction side of the fence and weighted down with soil or sandbags, or backfilled in a trench; with both methods, the purpose is to completely contact the surface so that water and sediment will not flow under it, and wildlife will not enter the work area from the wetland.

ATTACHMENTS

Figure 1. Study Area Location

Figure 2. Study Area Boundary

Figure 3. Habitat Map

Figure 4. Special-Status Plants within Five Miles of the Study Area

Figure 5. Special-Status Animals within Five Miles of the Study Area

Figure 6. Sensitive Natural Communities within Five Miles of the Study Area

Table 1. Special-Status Plant Species within Five Miles of the Study Area

Table 2. Special-Status Animal Species within Five Miles of the Study Area

Database Search Results:

- California Natural Diversity Data Base – Plants
- California Natural Diversity Data Base – Animals
- California Natural Diversity Data Base – Sensitive Natural Communities
- U.S. Fish and Wildlife Service – Information for Planning and Consultation (IPaC)
- California Native Plant Society Inventory of Rare and Endangered Plants of California

Figure 1. Study Area Location

Figure 2. Study Area Boundary

Figure 3. Habitat Map

Vegetation Acreages	
AWS-1	0.09
AWS-2	0.45
AWS-3	0.02
AWS-NON-JD	0.08
NNG-1	0.39
SW-1	0.06
FEM-1	0.24
DO-1	0.50
DO-2	0.01

Source: Bing Maps Hybrid (accessed 9/28/2020)

Figure 4. Special-Status Plants within Five Miles of the Study Area

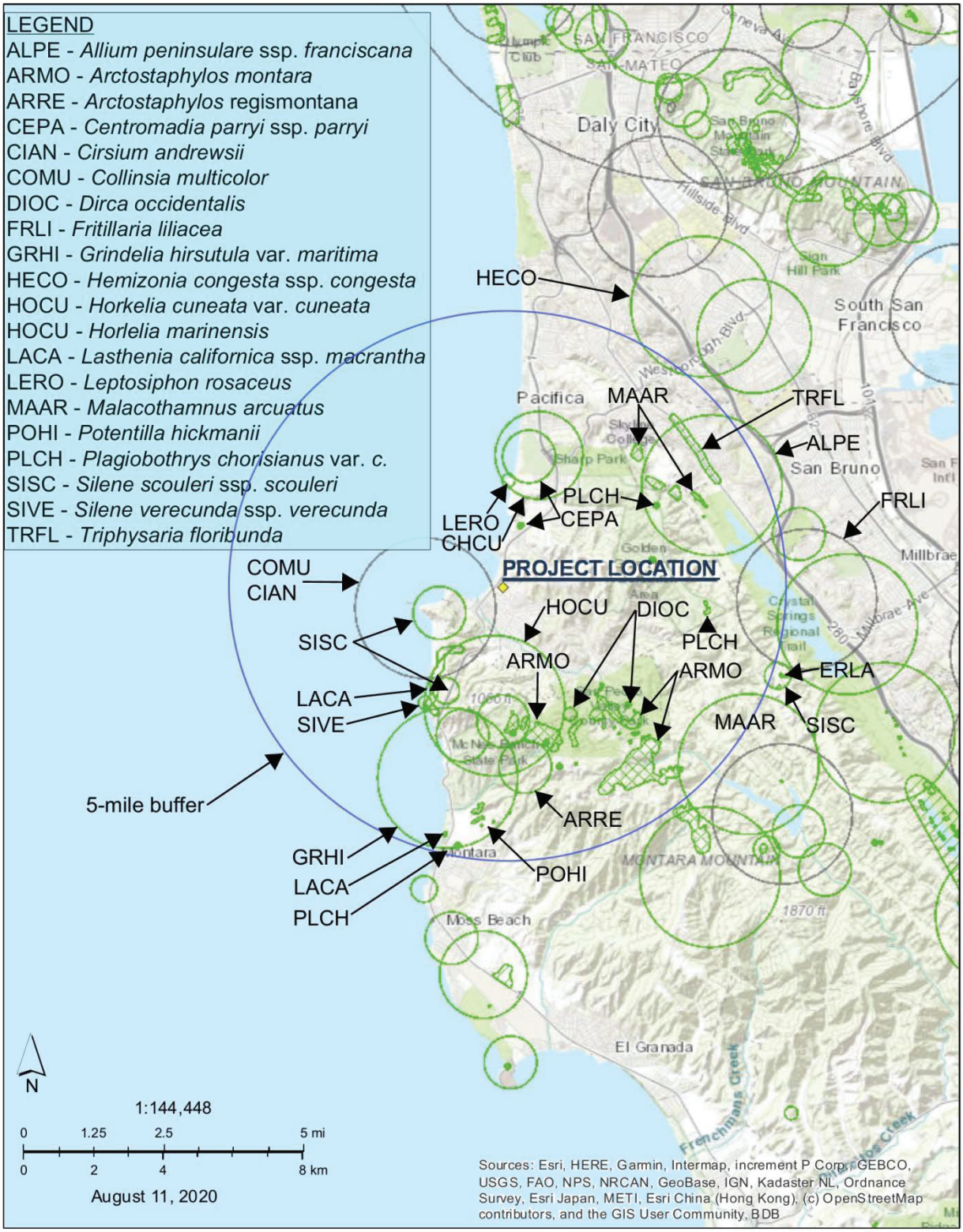

Figure 5. Special-Status Animals within Five Miles of the Study Area

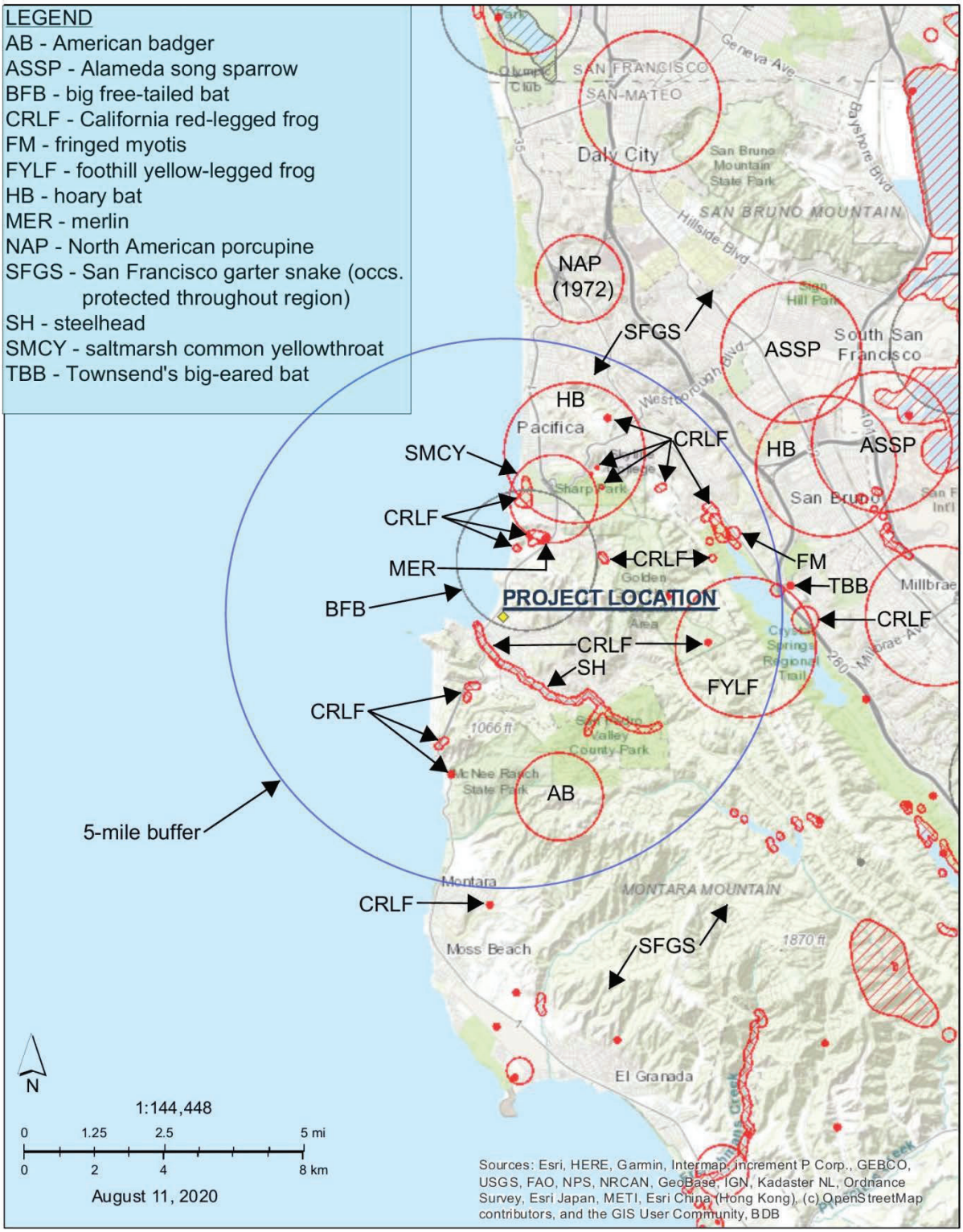

Figure 6. Sensitive Natural Communities within Five Miles of the Study Area

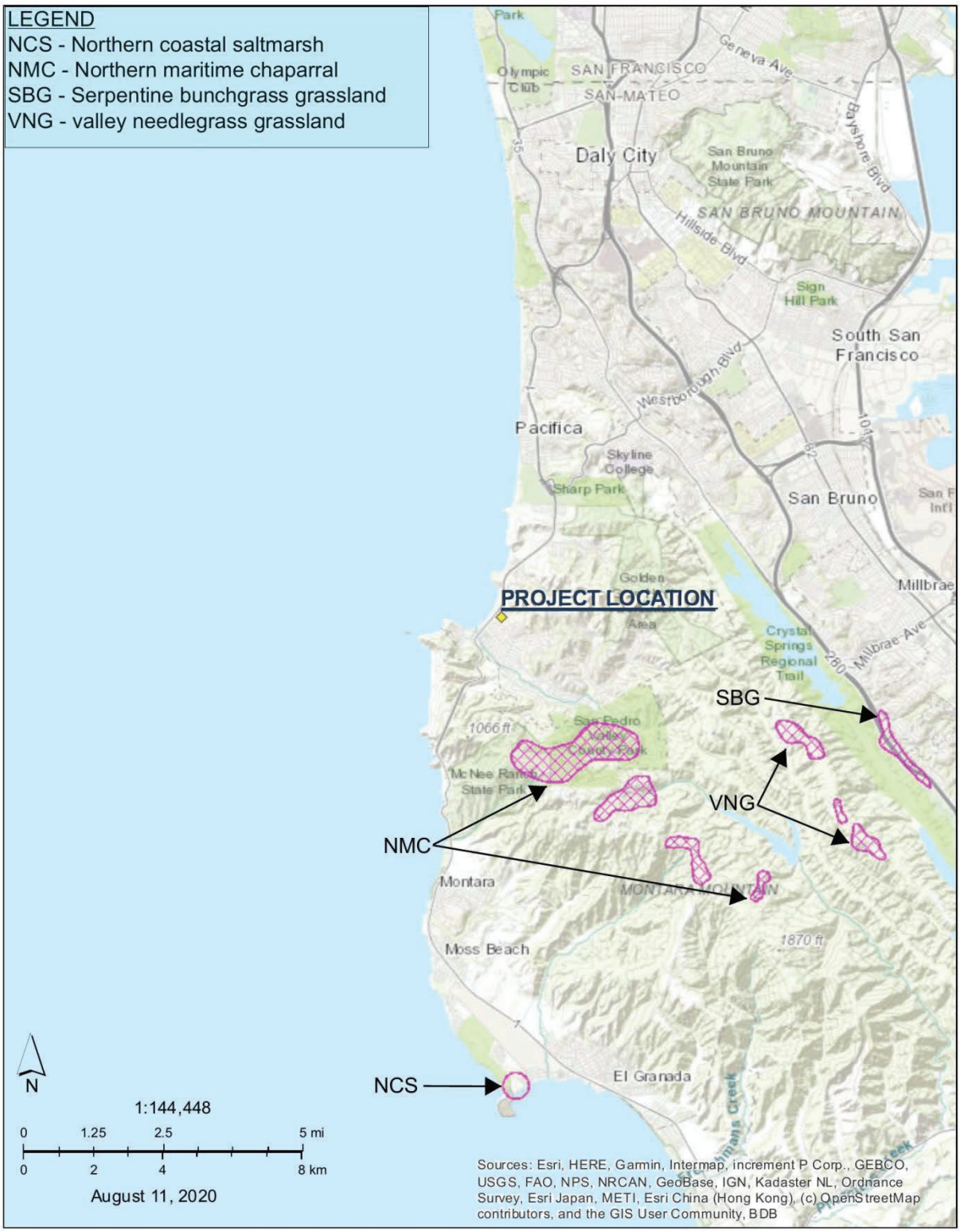

Table 1. Special-status plants within five miles of the study area.

Scientific Name **Common Name**	**Status**[1]	**Flowering Period**	**Habitat**	**Area Locations**	**Probability in Study Area**
Blasdale's bent grass *Agrostis blasdalei*	Fed: none State: none CRPR: 1B.2	May-July	Coastal bluff scrub, coastal dunes, coastal prairie.	Located 4.8 miles south of study area, on coastal bluff in Moss Beach (Occ. #60).	Not present. No suitable habitat. Not observed during July 2020 site visit.
Franciscan onion *Allium peninsulare*	Fed: none State: none CRPR: 1B.2	May-June	Woodland, grassland; clay soils, often on serpentine.	Located 3.4 miles east of study area, near San Andreas Lake. Occ. #20).	Not present. No suitable habitat.
Arctostaphylos montaraensis Montara manzanita	Fed: none State: none CRPR: 1B.2	Jan-March	Maritime chaparral and coastal scrub.	Located 1.8-2.0 miles south to southeast of study area, on and around Montara Mountain (Occ. #2).	Not present. No suitable habitat. Not observed during July 2020 site visit.
Kings Mountain manzanita *Arctostaphylos regismontana*	Fed: none State: none CRPR: 1B.2	Jan-April	Broadleafed upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops.	Located 2.5 miles south of study area, on Peak Mountain and Montara Mountain (Occ. #15).	Not present. No suitable habitat. Not observed during July 2020 site visit.
Centromadia parryi ssp. *parryi* pappose tarplant	Fed: none State: none CRPR: 1B.2	May-Nov	Coastal prairie; meadows and seeps; marshes and swamps; vernally wet grassland (sometimes alkaline).	Located 0.3 mile south from the study area (Occurrence #1).	Not present. No suitable habitat. Perennial plant, would have been seen if present. Not observed during July 2020 site visit.
Cirsium andrewsii Franciscan thistle	Fed: none State: none CRPR: 1B.2	June-July	Broadleafed upland forest; coastal bluff scrub (sometimes serpentinite).	Located 1.0 mile west from the study area (Occ. #2).	Not present. No suitable habitat. Would have been evident if present; not observed.
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	Fed: none State: none CRPR: 1B.2	April-July	Coastal bluff scrub; coastal dunes; coastal prairie; coastal scrub (sandy)	Located 1.9 miles north from the project site (Occ. #2).	Very low. Sandy soils present, but species not observed during July 2020 survey.
Collinsia multicolor San Francisco collinsia	Fed: none State: none CRPR: 1B.2	March-May	Closed-cone coniferous forest; shady scrub forest, coastal scrub.	Located 1.0 mile west from study area (Occ. #13).	Not present. No suitable habitat. .
Dirca occidentalis Western leatherwood	Fed: none State: none CRPR: 1B.2	Jan-April	Chaparral; riparian, broadleaf, and coniferous woodlands and forests; (mesic locations).	Located 2 miles SE from study area (Occ. #53).	Not present. No suitable habitat. Shrub/small tree, would have been evident if present. Not observed.
Eriophyllum latilobum San Mateo woolly sunflower	Fed: FE CA: CE CRPR: 1B.1	May-June	Woodland, coastal scrub, lower montane coniferous forest.	Located 4.5 miles ESE, from study area (Occ. #6), near San Andreas Lake.	Not present. No suitable habitat. Perennial shrub, would have been evident if present. Not observed.
Fritillaria liliacea fragrant fritillary	Fed: none State: none CRPR: 1B.2	Feb-April	Coastal scrub, valley and foothill grassland, coastal prairie, woodland, often on serpentine soil, usually on clay soil.	Located 5 miles SE of study area (Occ. #37), near Pilarcitos Lake.	Not present. No suitable soil or habitat.
Grindelia hirsutula var. *maritima* San Francisco gumplant	Fed: none State: none CRPR: 3.2	June-Sept	Coastal scrub, coastal bluff scrub, valley and foothill grassland.	Located 2.75 miles S of study area, near Gray Whale Cove (Occ. #11).	Not present. No suitable habitat. Perennial plant, would have been evident if present. Not observed.
Hemizonia congesta ssp. *congesta* hayfield tarweed	Fed: none State: none CRPR: 1B.2	April-Nov	Valley and foothill grassland.	Historic collection (1909; Occ. #1). Entire area is developed, likely extirpated.	Not present. No suitable habitat. Not observed.

Scientific Name **Common Name**	**Status**[1]	**Flowering Period**	**Habitat**	**Area Locations**	**Probability in Study Area**
Horkelia cuneata var. *sericea* Kellogg's horkelia	Fed: none CA: none CRPR: 1B.1	Feb-July	Coastal dunes (mesic), coastal scrub, coastal salt marshes, streamsides.	Historic locations near Colma (Occ. #30), and recent observations ~2 miles S of study area near Montara Mtn. (Occ. #60).	Not present. No suitable habitat; perennial plant, would have been observed if present.
Horkelia marinensis Point Reyes horkelia	Fed: none State: none CRPR: 1B.2	May-Sept	Sandy flats and dunes near coast; coastal dunes, coastal prairie, coastal scrub.	Historic locations near San Bruno (1962, Occ. #26) and Colma (1909, Occ. #33).	Not present. No suitable habitat; perennial plant, would have been observed if present.
Hypogymnia schizidiata Island rock lichen	Fed: none State: none CRPR: 1B.3	n/a	Chaparral, closed-cone coniferous forest, on bark of hardwood shubs.	Located 2 miles S of study area near McNee Ranch St. Park and Peak Mtn. (Occs. #5, 6, 7)	Not present. No suitable habitat.
Lasthenia californica ssp. *macrantha* perennial goldfields	Fed: none State: none CRPR: 1B.2	Jan-Nov	Coastal bluff scrub, coastal dunes, coastal scrub.	Located in coastal prairie 3.5 miles S of study area on bluffs in Moss Beach (Occ. #45) and 1.5 miles SW on Devil's Slide trail (Occ. #46),	Not present. No suitable habitat.
Leptosiphon croceus Coast yellow leptosiphon	Fed: none State: none CRPR: 1B.1	April-May	Only known from five locations. Open, grassy areas, coastal bluffs,	Located on bluffs 4.8 miles south from the study area (Occ. #2).	Not present. No suitable habitat.
Leptosiphon rosaceus rose leptosiphon	Fed: none CA: CE CRPR: 1B.1	April-July	Coastal bluff scrub, coastal dunes, coastal prairie.	Historic collections (1903 and 1950), near Montara Pt., 4.4 miles S of study area. Possibly extirpated.	Not present. No suitable habitat.
Malacothamnus arcuatus arcuate bush mallow	Fed: none State: none CRPR: 1B.2	April-Sept	Chaparral and woodland.	Located 2.6 miles NE of study area (Occ. #20) near San Bruno, and 4.2 miles SE (Occ. #32) near Pilarcitos Lake (historical occurrence, 1902).	Not present. No suitable habitat. Perennial shrub, would have been evident if present. Not observed.
Monolopia gracilens woodland monolopia	Fed: none State: none CRPR: 1B.2	March-July	Grassy openings in chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, North Coast coniferous forest.	Historic collection (1949) near Pilarcitos Lake, 5 miles SE of study area (Occ. #40).	Not present. No suitable habitat.
Pentachaeta bellidiflora white-rayed pentachaeta	Fed: FE CA: CE CRPR: 1B.1	March-May	Valley and foothill grassland, woodland.	Near San Skyline Boulevard, Andreas Lake, 4.3 miles E of study area (Occ. #2). Presumed extirpated.	Not present. No suitable habitat.
Plagiobothrys chorisianus var. *chorisianus* Choris's popcorn flower	Fed: none State: none CRPR: 1B.2	March-June	Chaparral, coastal scrub, coastal prairie.	Located on Sweeney Ridge 3 miles E of study area (Occ. #10) and 2.5 miles NE (Occ. #9), and in Montara, 3.7 miles S (Occ. #43).	Not present. No suitable habitat.
Potentilla hickmanii Hickman's cinquefoil	Fed: FE CA: CE CRPR: 1B.1	April-Aug	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), freshwater marshes.	Located north of Montara, 3 miles S of study area (Occ. #6).	Not present. No suitable habitat; perennial plant, would have been observed if present.
Silene scouleri ssp. *scouleri* simple campion	Fed: none State: none CRPR: 2B.2	May-Aug	Coastal bluff scrub, coastal prairie, valley and foothill grassland.	Nearest population is 1 mile SW of study area, on Pedro Point (Occ.	Not present. No suitable habitat; perennial plant, would have been

Scientific Name **Common Name**	**Status**[1]	**Flowering Period**	**Habitat**	**Area Locations**	**Probability in Study Area**
				#2)	observed if present.
Silene verecunda ssp. *verecunda* San Francisco campion	Fed: none CA: none CRPR: 1B.2	March-July	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland.	Nearest population is 1.9 miles SW of study area along Devil's Slide trail.	Not present. No suitable habitat; perennial plant, would have been observed if present.
Trifolium amoenum showy Indian clover	Fed: FE State: none CRPR: 1B.1	April-June	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil,	Historic record (1907) near Colma, location not specific. Likely extirpated.	Not present. No suitable habitat.
Triphysaria floribunda San Francisco owl's clover	Fed: none CA: none CRPR: 1B.2	April-June	Coastal prairie, coastal scrub, valley and foothill grassland, usually on serpentine soil	Several historic records; nearest on Skyline Boulevard 3.5 miles NE of study area (Occ. #49)	Not present. No suitable habitat.
Triquetrella californica California triquetrella moss	Fed: none State: none CRPR: 1B.2	n/a	Coastal bluff scrub, coastal scrub, grasslands, on gravel or thin soil.	Located 2 miles E of study area (Occ. #8).	Not present. No suitable habitat.

[1]**Status**
Federal:
FE - Federal Endangered
FT - Federal Threatened

State:
CE - California Endangered
CSC - California Species of Special Concern

CRPR (California Rare Plant Rank):
Rank 1A - Presumed extinct in California
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 1B.1 - Seriously endangered in California (over 80% occurrences threatened/
high degree and immediacy of threat)
Rank 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
Rank 1B.3 - Not very endangered in California (<20% of occurrences threatened or no
current threats known)
Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 2A - Extirpated in California, common elsewhere
Rank 2B.1 - Seriously endangered in California, but more common elsewhere
Rank 2B.2 - Fairly endangered in California, but more common elsewhere
Rank 2B.3 - Not very endangered in California, but more common elsewhere
Rank 3 - Plants about which we need more information (Review List)
Rank 3.1 - Plants about which we need more information (Review List)
Seriously endangered in California
Rank 3.2 - Plants about which we need more information (Review List)
Fairly endangered in California
Rank 4 - Plants of limited distribution - a watch list

Table 2. Special-status wildlife within five miles of the study area.

Scientific Name **Common Name**	**Status**[1]	**Habitat**	**Proximity to Study Area**	**Probability in Study Area**
INSECTS				
Monarch butterfly[2] *Danaus plexippus*	Fed: none State: none Other: S	Winters in tall trees along the coast. Prefers eucalyptus, Monterey pine and Monterey cypress.	Nearest overwintering site is Martini Creek near Montara State Beach, ~3 miles SSW of study area (data from suppressed records in CNDDB).	None. Migration and overwintering roosts are highly visible and well-documented. Not present in study area.
San Bruno elfin butterfly[2] *Callophrys mossii bayensis*	Fed: FE State: none Other: none	Coastal mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mt., San Mateo Co., on steep north-facing slopes within the fog belt. Larval host plant is *Sedum spathulifolium.*	Located 1.9 miles south of the study area (occ. #14).	None. No suitable habitat on or adjacent to study area. Host plant not present.
Myrtle's silverspot butterfly[2] *Speyeria zerene myrtleae*	Fed: FE State: none Other: none	Coastal terrace prairie, coastal bluff scrub, and non-native grassland in Marin and SW Sonoma Counties. Extirpated from San Mateo County. Larval food plant is *Viola adunca.*	Nearest record mile north from study area (Occ. #13).	None. No suitable habitat present on or adjacent to study area. Host plant not present.
FISH				
Steelhead – Central California Coast DPS – Population 8	Fed: FT State: none Other: none	From Russian River south to Soquel Creek, Pajaro River. Also in SF and San Pablo Bay basins. Spawn in clear, cool well-oxygenated streams greater than 18 cm deep.	Located 0.3 mile S of study area in San Pedro Creek (Occ. #12)	None. No suitable habitat present.
AMPHIBIANS				
Foothill yellow-legged frog *Rana boylii*	Fed: FE State: Other:	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Historic and non-specific record, near San Andreas Lake (Occ. #2133), considered extirpated.	No suitable habitat present.
California red-legged frog *Rana draytonii*	Fed: FT State: SSC Other:	Lowlands and foothills in pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Nearest record 0.3 mile S of study area in San Pedro Creek (Occ. #652).	None. Wetland in study area dries in late spring or early summer (no significant ponding in 2020), therefore not suitable breeding habitat. This urban infill site is isolated from nearest population, with no migration potential.
REPTILES				
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	Fed: FE State: CE Other: none	Freshwater marshes, ponds and slow-moving streams on the SF peninsula. Prefers dense cover and water depths of at least 1 ft.	Closest record is 1 mile north of the study area (Occ. #45, CNDDB suppressed records). Locations in Pacifica area are all sites that support aquatic habitats that remain inundated.	None. Seasonal wetland on and immediately adjacent to project site dries late in Spring or early summer, and is isolated from extant suitable habitats by surrounding development.

Scientific Name **Common Name**	**Status**[1]	**Habitat**	**Proximity to Study Area**	**Probability in Study Area**
BIRDS				
Merlin *Falco columbarius*	Fed: none State: WL Other: LC	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Record for this species located 1.2 miles northeast from the project site (Occ. #12).	None. Does not nest in California. Migrating birds would not be affected by proposed project.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	Fed: none State: SSC Other: BCC	Resident of freshwater and salt water marshes in the SF Bay region. Requires dense, continuous cover for foraging and tall grasses, tules, or willows for nesting.	Record for this species located 1.8 mile north from the project site (Occ. #5).	Observed during 2017-2018. Willow scrub in study area could provide migration habitat, but is only a small, limited area of suitable habitat in an urban setting. Not expected to support nesting birds (see text).
Alameda song sparrow *Melospiza melodia pusillula*	Fed: none State: SSC Other: BCC	Resident of salt marshes bordering San Francisco Bay.	Two historic records (1940, Occ. #23; and 1947, Occ. #32) from near Colma.	No suitable habitat present.
MAMMALS				
American badger *Taxidea taxus*	Fed: none State: none Other: LC	Scrub, forest, and herbaceous habitats, with friable soils.	One record from 1948 near Peak Mtn., 2.6 miles SSE (Occ. #127).	No suitable habitat.
North American porcupine *Erethizon dorsatum*	Fed: none State: none Other: LC	Forest, woodland, occasionally grassland and scrub.	One record from 1972 (Occ. #430) in Daly City. Site since developed.	No suitable habitat in study area, or connectivity to habitat.
Townsend's big-eared bat *Corynorhinus townsendii*	Fed: none State: SSC Other: LC	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Nearest record is 4 miles east of study area (Occ. #431). Building since demolished.	No suitable habitat present.
Hoary bat *Lasiurus cinereus*	Fed: none State: SSC Other: LC	Roosts in dense foliage in medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity.	Record for this species located 2 miles north from the project site (Occ. #120).	Large cypress trees in study area are marginally suitable for day roosting, but not as maternal roosting habitat. Not expected to be impacted.
Fringed myotis *Myotis thysanodes*	Fed: none State: none Other: LC	Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Nearest record is near Crystal Springs Reservoir (Occ. #44).	No suitable habitat present.
Big free-tailed bat *Nyctinomops macrotis*	Fed: none State: CSC Other: LC	Roosts in crevices in rocky outcrops and cliffs, although there is some, documentation of roosts in buildings, caves, and tree cavities.	One record for this species from 1984 located 1 mile northwest from the project site (Occ. #20).	None. No rocky habitat for roosting which is the primary roosting habitat.

[1] **Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened

[2] Included in 2014 Biological Constraints Analysis, but not within 5 miles of study area according to CNDDB 2020.

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CSC - California Species of Special Concern
FP - Fully Protected
WL - Watch List. Not protected pursuant to CEQA

Other:
LC – IUCN Least Concern
BCC – USFWS Bird species of Conservation Concern
S – USFWS Sensitive

APPENDIX D

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DATE: May 31, 2024
TO: Brendan Murphy, Eamon Murphy
BayWorks Construction, Inc.
P.O. Box 301
San Mateo, CA 94401
FROM: Chris Rogers
SUBJECT: Updated Delineation of Potentially Jurisdictional Aquatic Resources and Effects Analysis
570 Crespi Avenue, Pacifica CA

This memorandum is an updated summary of potentially jurisdictional aquatic resources (including wetlands and other waters of the United States and waters of the State of California) for the proposed development of two parcels located at 540 and 570 Crespi Drive, in Pacifica, CA (APN 022-162-420 and 022-162-310).The parcels are owned by the City of Pacifica and by Brendan and Eamon Murphy, respectively, and are referred to here as the City parcel and the Murphy parcel (see Figures 1 and 2). The two parcels, totaling approximately 1.85 acres, are under consideration for being merged and developed by the Murphys with residential uses (the residential project).

This report was prepared at the request of the City of Pacifica Planning Department and consolidates information that has been developed over a period of several years of environmental review and provided to the City in several memoranda. The City also requested that the wetlands and other water be reevaluated to determine if their extent had changed during the preceding several years.

Wood Biological Consulting (WBC) prepared a wetland delineation report in 2020[1], in response to a peer review of the 2014 Biological Constraints Analysis[2], which recommended an update of the "aquatic resource delineation" (*i.e.,* delineation of wetlands and other waters), and to include the City parcel in the delineation. The 2020 delineation report informed the layout of proposed development for the properties in relation to the norther edge of the willow and marsh vegetation in the central portion of the two parcels. Revisions to certain elements of the proposed project prompted additional and more detailed analysis of potentially jurisdictional areas in the southern portion of the two parcels. Additional City-owned property that will receive improvements as part of the proposed project also is included in this report. At the request of the City, an updated report on potentially jurisdictional wetlands and other waters and an analysis of effects of the project on those resources was submitted on October 27, 2023.

[1] Wood Biological Consulting. 2020. *Delineation of Potentially Jurisdictional Wetlands and Other Waters, 570 Crespi Avenue, Pacifica, CA.* Prepared for Brendan and Eamon Murphy. Oct. 6.

[2] Monk & Associates. 2014. *Biological Constraints Analysis, 570 Crespi Drive, City of Pacifica, San Mateo County, California (APNS: 022-162-310) (~1.7 Acres)*. Prepared for SC Properties, San Mateo CA. October 8.

This memorandum and the methods employed to identify the wetland boundary are consistent with the U.S. Army Corps of Engineers, San Francisco District standards for identifying federal jurisdictional waters of the U.S.[3], and state guidance for identifying waters of the state[4].

METHODS

The study area for this assessment consists of the two parcels, the City parcel and the Murphy parcel, and an additional portion of the adjacent Community Center where improvements would be made as part of the project (Figure 2).

Prior to conducting field data collection, WBC reviewed relevant background information, including the 2014 biological report, the 2020 peer view, a sequence of aerial photo imagery on Google Earth, National Wetlands Inventory[5], California Aquatic Resource Inventory[6], Soil Conservation Service[7], Montara Mountain U.S. Geological Survey 7.5-minute topographic quadrangle map, a topographic survey map of the parcels, and environmental review documents related to the City's recently completed Wet Weather Equalization Basin[8], which is adjacent to and due west of the City parcel.

Aquatic resources on both parcels were assessed in the field by WBC senior ecologist Chris Rogers on July 19, 2020. WBC conducted an additional assessment on March 31 and April 4, 2022, which focused on re-evaluating the wetland boundary in the southern portion of the site in support of a design modification regarding an emergency drain riser. At the City's request, the entire site was reassessed on April 5, 2023 to determine whether the wetland boundary had changed in the intervening period, which included the exceptionally wet winter of 2022-2023. The field data collection consisted of observations of wetland and upland vegetation, soil characteristics, and evidence of hydrology in relation to topography. The delineation used the "Routine Determination Method" as described in the 1987 USACE of Engineers Wetland Delineation Manual[9], in conjunction with the *Regional Supplement to the Corps of Engineers Wetland*

[3] Department of the Army, San Francisco District, U.S. Army Corps of Engineers. (revised April 2016). *Information Requested for Verification of Corps Jurisdictions.* https://www.spn.usace.army.mil/Portals/68/docs/regulatory/2%20-%20Info%20Req.pdf.

[4] California Water Boards. 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.* State Water Resources Control Board. Adopted April 2, 2019; Revised April 6, 2021. Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf

[5] U.S. Fish and Wildlife Service. 2020. *National Wetlands Inventory, Wetlands Mapper*. https://www.fws.gov/wetlands/data/mapper.html

[6] San Francisco Estuary Institute (SFEI). 2017. *California Aquatic Resource Inventory (CARI),* version 0.3. Accessed Sept 11, 2020. https://www.sfei.org/data/california-aquatic-resource-inventory-cari-version-03-gis-data#sthash.iognRp02.dpbs.

[7] United States Department of Agriculture (USDA). 2014. *Custom Soil Resource Report for, San Mateo County, Eastern Part, and San Francisco County, California: 570 Crespi Drive, Pacifica*. Natural Resource Conservation Service; Web Soil Survey. Report printed July 28. http://websoilsurvey.nrcs.usda.gov/app/ (see Attachments)

[8] Terraphase Engineering, Inc. 2016. *Wet Weather Equalization Basin Project, Draft Mitigated Negative Declaration/Initial Study*. Prepared for City of Pacifica. https://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?BlobID=11510

[9] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.* U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. January. 100 pp. Available online at http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/delineation_manual.pdf

Delineation Manual: Western Mountains, Valleys and Coasts Region (Version 2.0)[10], hereafter called the "WVMC Supplement." Aquatic resources were classified using commonly accepted habitat types. Wetland plant indicator status is referenced to the 2020 WVMC Regional Wetland Plant list[11].

In the northern part of the project parcels, vegetation, soil and hydrology were documented at nine locations on three transects across the wetland-upland boundary. Sample points were mapped in the field using a Trimble Geo XT 6000, with differential correction. Based on these data, a wetland boundary (subject to verification by the USACE) was mapped on an aerial photograph. This preliminary delineation includes wetlands that meet the federal three-parameter definition and other waters of the United States. Three positive wetland parameters must normally be present for an area to be considered a wetland: 1) dominance of wetland vegetation, 2) presence of hydric soils, and 3) presence of wetland hydrology.

The extent of wetlands near the southern boundary of the City and Murphy parcels was re-evaluated in March and April, 2022, in relation to the location of a proposed emergency overflow riser (*i.e.*, drain inlet), and the City's drainage easement located along the southern boundary of the project site. The location of the inlet was shown on the Murphy's prior project Tentative Map application, Sheet TM-3 (dated 1/21/21). However, that location is within a wetland; installation of the riser within the wetland could trigger the need for regulatory permits from federal and state regulatory agencies.

The 2020 wetland delineation map and report[12], completed prior to the original project submittal, focused on the location and extent of aquatic resources toward the northern portion of the study area, where the objective was to avoid impacts to aquatic resources resulting from the proposed residential development project. In the southern portion of the project, which is dominated by dense and often impenetrable willow scrub, the extent of wetlands was extrapolated based on the presence of willow wetlands elsewhere on the site, and on the neighboring City's Community Center and Wet-Weather Equalization Basin parcel.

An alternative location for the riser was proposed by the applicant close to the southwest corner of the study area, and shown on revised plans submitted to the City (Sheet A1.14, dated 04/08/22). WBC delineated this area on March 31 and April 4, 2022, to more precisely determine the boundary between wetland and non-wetland areas. Data were recorded or three sample locations, SP-1, SP-2 and SP-3 and summarized in a letter to the City[13].

Botanical taxonomy and nomenclature conform to The Jepson Manual[14] (Baldwin *et al*. 2012), except for recent revisions posted on the Jepson Online Interchange.

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[10] United States Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, Coast Region (Version 2.0); Final Report.* ERDC/EL TR-08-28. U.S. Army Engineer Research and Development Center, Vicksburg, MS. Available online at https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7646

[11] U.S. Army Corps of Engineers 2020. *National Wetland Plant List, version 3.5*. http://wetland-plants.usace.army.mil/

[12] Wood Biological Consulting. 2020. *Ibid.*

[13] Wood Biological Consulting. 2022. *570 Crespi Drive Development Proposal, Clarification of Wetland Boundary in Southern Part of Project Site.* Letter to Christian Murdock, City of Pacifica. April 8.

[14] Baldwin, B.G, D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. Second edition. Univ. Calif. Press, Berkeley. 1568 pp. Jepson eFlora available online at http://ucjeps.berkeley.edu/IJM.html

REGULATORY DEFINITIONS

Wetlands and other waters (e.g., rivers, streams, and natural ponds) are a subset of waters of the U.S. and receive protection under Section 404 of the CWA. The USACE has primary federal responsibility for administering regulations that concern waters of the U.S. and requires a permit if a project proposes placement of structures within navigable waters and/or alteration of waters of the U.S. The USEPA has the ultimate authority under the CWA and can veto the USACE's issuance of a permit to fill jurisdictional waters of the U.S.

Waters of the State are inclusive of waters of the U.S. under Section 401 of the federal CWA, but also are also regulated more broadly by the Regional Water Quality Control Boards under the Porter-Cologne Water Quality Control Act. Under this law, the RWQCB protects water quality and the beneficial uses of both surface and ground water. Waters regulated under Porter-Cologne include isolated waters that are not regulated by the USACE. Discharges of fill (*e.g.*, waste) to waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

Many of the terms used throughout this report have specific meanings with respect to the delineation of Waters of the U.S. These terms are defined below:

Hydric Soil: A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils are often characterized by redoximorphic features (such as redox concentrations, formerly known as mottles), which form by the reduction, translocation, and/or oxidation of iron and manganese oxides. Hydric soils may lack hydric indicators for a number of reasons. In such cases the same standard used to determine wetland hydrology when indicators are lacking can be used (USDA NRCS 2010).

Hydrophytic Vegetation: Hydrophytic vegetation is defined as plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on a single indicator species (i.e., there must be a prevalence of hydrophytic vegetation present to satisfy this wetland parameter).

Other Waters: The term "other waters of the United States" includes water bodies, such as rivers and streams that may not meet the full criteria for wetlands designation but that do exhibit evidence of an OHWM and are navigable or hydrologically connected to a navigable water body. Under the latest regulatory guidance, all such waters must have a significant nexus to a navigable water body to be considered jurisdictional by the USACE.

Special Aquatic Sites: Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. Special aquatic sites include sanctuaries, refuges, wetlands, vernal pools, coral reefs and mudflats among others.

Study Area: For the purposes of this report, the study area, refers to the entire area surveyed or hereby evaluated, which is inclusive of the City parcel and the Murphy parcel, and a small area adjacent to the Community Center.

Traditionally Navigable Waters (TNW): TNWs are all navigable waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. TNWs also include all waters that are 'navigable-in-fact,' defined through case law to include those water bodies that are both navigable and have the capacity to be used for the purposes of commerce, whether or not they have ever been used for such a purpose.

Waters of the United States: The definition of "waters of the United States" (33 CFR § 328.3; 40 CFR § 120.2) is listed below[15]. Relevant sections to the study area are at (a)(4) "adjacent wetlands", and (b)(8), swales with low volume, infrequent, or short duration flow.

(a) Waters of the United States means:

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

[15] Department of the Army, Corps of Engineers (33CFR Part 328) and Environmental Protection Agency (40CFR Part 120), 2023. *Revised Definition of "Waters of the United States; Conforming*. Fed. Reg. 88(173): 61964-61969. Sept 8, 2023.

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

(c) In this section, the following definitions apply:

(1) ***Wetlands*** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) ***Adjacent*** means having a continuous surface connection.

(3) ***High tide line*** means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) ***Ordinary high water mark*** means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(5) ***Tidal waters*** means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

Wetland Hydrology: This term encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. These include both riverine and non-riverine hydrology indicators, such as sediment deposits, drift lines, and oxidized rhizospheres along living roots in the upper 12 inches of the soil. In the Arid West, hydrologic indicators may be absent in any given year due to annual variability in precipitation and in times of drought. The *Arid West Supplement* (USACE 2008) cites a technical standard that can be used for disturbed or problematic sites that support wetland vegetation and soils but where wetland hydrology is not apparent. This standard calls for 14 or more consecutive days of flooding, ponding, or saturation.

Wetland Indicator Status: Refers to the probability that a plant will occur in a wetland or not. Indicator status categories are as follows:

- *Obligate (OBL)*: almost always occurs in wetlands
- *Facultative wetland (FACW)*: usually occurs in wetlands, sometimes may occur in uplands
- *Facultative (FAC)*: equally likely to occur in wetlands or uplands
- *Facultative upland (FACU)*: usually occurs in uplands but may occasionally occur in wetlands
- *Obligate upland (UPL)*: almost never occurs in wetlands
- *No indicator (NI)*: no indicator assigned due to lack of information

SETTING

The wetland delineation study area is located within the Santa Cruz Mountains subsection of the Central California Coast Section as described in the Ecological Subregions of California[16] (USDA 1997). Vegetation in the study area is not representative of historic conditions, which likely consisted of coastal scrub, coastal dunes and coastal prairie. Currently, the northern portion of the study area supports several large Monterey cypress trees with an understory (groundcover) of predominantly non-native herbaceous vegetation. The southern portion of the study area is slightly lower in elevation and gradually becomes dominated by perennial wetland vegetation, such as willows, cattails and sedges.

The study area is situated within a residential and commercial neighborhood of Linda Mar, within the City of Pacifica (coordinates: 37.597992°, -122.499359°). The 1.85-acre study area ranges from approximately 15 ft elevation (relative to a City benchmark in Crespi Drive) at the northeastern end of the Murphy parcel, to about 9 ft at the southwestern end. The climate is cool and temperate, characteristic of the San Francisco Peninsula coastal region. The average annual high temperature in Pacifica is 64°F; the annual average

[16] U.S. Department of Agriculture (USDA). 1997. *Ecological Subregions of California: sections and subsections descriptions. USDA, Forest Service, Pacific Southwest Region.* https://web.archive.org/web/20080304224853/http://www.fs.fed.us/r5/projects/ecoregions/`

low temperature is 49°F). About 29.5 inches of precipitation falls annually, with most of the rainfall between October and April[17]; see also the WETS tables in the attachments.

VEGETATION

Vegetation within the study area consists of arroyo willow scrub, emergent marsh, non-native annual grassland, and disturbed and ornamental habitats. The following are descriptions of the vegetation types occurring within the wetland delineation study area. The composition and extent of the vegetation types was re-evaluated on April 5, 2023, to assess whether substantial changes occurred that could be attributed to the wetter-than-average winter of 2022-2023. Table 1 is a list of all plants observed in the study area, updated as of April, 2023.

Arroyo Willow Scrub

Willow scrub, dominated by arroyo willow (*Salix lasiolepis*), covers most of the southern portion of the study area on both parcels (Figure 3). It also occurs in smaller stands along the western and eastern parcel boundaries. The willows form a dense and impenetrable thicket with few associated plant species. The willow scrub is almost entirely within the delineated wetland boundary and is represented by wetland delineation sample point 3B (see wetland delineation data forms in the attachments); the exception is at the northern extent, where soils and hydrology near the edge of the willows failed to meet wetland criteria (sample points 3C). Additionally, at the far southern end of the parcels, the topography rises slightly because of fill placed for the backyards of homes on Anza Drive. Although willow canopy extends to the parcel boundary, the willows are rooted in the lower part of the topographic depression, away from the fence line. In the southwestern corner, the topography rises more abruptly toward the berm that separates the project parcels from the Community center parking lot and rain garden. Non-native ngaio tree (*Myoporum laetum*), and upland species, replaces willow where the ground surface level is higher.

During the re-evaluation of the wetland boundaries in April, 2023, we confirmed that the extent and composition of arroyo willow scrub was unchanged from the previous delineation maps.

Emergent Marsh

Emergent marsh occupies a shallow topographic depression in the middle part of the study area (Figure 3), corresponding with the area with shallow ponded water in the winter. Seasonally high groundwater presumably persists, resulting in a predominance of emergent marsh plant species, such as Baltic rush (*Juncus balticus)*, broadleaf cattail (*Typha latifolia*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), and dotted smartweed (*Persicaria punctata*), among others. All of the emergent marsh is within the delineated wetland boundary (sample point 2A).

During the re-evaluation of the wetland boundaries in April, 2023, we confirmed that the extent and composition of emergent marsh was unchanged from the original 2020 delineation. Although water level in the southern part of the parcels was higher in the immediate aftermath of significant rain events in storms in the winter of 2022-2023, it did not persist long enough to result in establishment of emergent wetland plants in the transitional area that is mapped as seasonal wetland.

Seasonal Wetland

Seasonal wetland occupies a narrow band that is transitional between the upland and emergent marsh and arroyo willow scrub (Figure 3). The vegetation includes species that occupy the margins of the

[17] https://www.usclimatedata.com/climate/pacifica/california/united-states/usca0822

emergent marsh, but also some of the non-native annual grassland species as well. Sample point 1A is located near the boundary between seasonal wetland and non-native grassland.

During the re-evaluation of the wetland boundaries in April, 2023, the extent and composition of seasonal wetland was unchanged from the original 2020 delineation. Although water level in the southern part of the parcels was higher in the immediate aftermath of significant rain events in storms in the winter of 2022-2023, it did not persist long enough to convert this area to emergent marsh through establishment of obligate wetland plants.

Non-native Annual Grassland

Non-native grassland vegetation is present on the majority of the northern part of the study area, including the former residence site (Figure 3). Dominant plant species are annual grasses, such as bromes (*Bromus diandrus, B. hordeaceus*), slender oats (*Avena barbata*), hare barley (*Hordeum murinum* ssp. *leporinum*), velvet grass (*Holcus lanatus*), and Italian ryegrass (*Festuca perennis*), with various non-native broad-leaf herbaceous species. Sample points 1B, 1C, 2B, and 2C are representative of this vegetation type. Non-native annual grassland plant species also occur within the area mapped as seasonal wetland within the delineated wetland boundary, where they appear to be expanding down the topographic gradient in response to drier soil conditions following groundwater pumping during construction of the City's Wet Weather Equalization Basin.

During the re-evaluation of the wetland boundaries in April, 2023, the extent and composition of non-native annual grassland was consistent with the original 2020 delineation.

Disturbed and Ornamental

Disturbed habitat includes land cleared of vegetation or lands that have undergone frequent or extensive alteration to the extent that the site is dominated by non-native plant species. This type of habitat also includes areas subject to periodic vegetation management, such as mowing or brush clearing, which preclude the re-establishment of native vegetation communities. Within the study area, a parking area adjacent to Crespi Drive that is used by beach visitors, and a gravel staging area used during construction of the Wet Weather Equalization Basin are disturbed habitat (Figure 3).

Ornamental vegetation consists of maintained and unmaintained landscaping using native and non-native plants. Within the study area, large Monterey cypress trees are remnants of landscaping associated with the former residence on the Murphy parcel. An additional area of ornamental vegetation located in front of the Community Center is included within the current study area. None of the ornamental vegetation is within the delineated wetland boundary (sample point 3D).

Table 1. Plant Species in Study Area

SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS
Agrostis pallens	Diego bent grass	UPL
Atriplex prostrata	fat hen	FAC
*Avena barbata**	slender oats	NL
Baccharis pilularis ssp. *consanguinea*	coyote brush	NL
*Bromus diandrus**	ripgut brome	NL
*Bromus hordeaceus**	soft brome	FACU
*Carduus pycnocephala**	Italian thistle	NL
*Carpobrotus edulis**	ice plant	NL
*Cirsium vulgare**	bull thistle	FACU
*Cortaderia jubata**	jubata grass	FACU
*Geranium dissectum**	cutleaf geranium	NL
*Eucalyptus globulus**	Tasmanian blue gum	NL
*Festuca perennis**	Italian ryegrass	FAC
*Fumaria capreolata**	white ramping fumitory	NL
*Hedera helix**	English ivy	FACU
*Hesperocyparis macrocarpa***	Monterey cypress	NL
*Holcus lanatus**	velvet grass	FAC
Hordeum murinum ssp. *leporinum**	hare barley	FAC
*Lythrum hyssopifolia**	hyssop loosestrife	OBL
Juncus balticus	Baltic rush	FACW
Juncus effusus	common rush	FACW
*Malva nicaeensis**	bull mallow	NL
*Medicago polymorpha**	bur clover	FACU
*Melilotus albus**	white sweetclover	NL
*Myoporum laetum**	ngaio tree	UPL
Persicaria punctata	dotted smartweed	OBL
Potentilla anserina ssp. *pacifica*	Pacific silverweed	OBL
*Pseudognaphalium luteoalbum**	Jersey cudweed	FACW
Rubus ursinus	California blackberry	FACU
*Rumex crispus**	curly dock	FAC
Salix lasiolepis	arroyo willow	FACW
Solanum douglasii	Douglas' nightshade	FAC
*Sonchus oleraceus**	sow thistle	UPL
Symphyotrichum chilense	Pacific aster	FAC

SOILS

Soils in the study area are mapped as Urban land or Urban land-Orthents, cut and fill complex, 0 to 5 percent slopes[18]. While this is an accurate description of the adjacent parcels that already have been developed, a more accurate description of the soil on the undeveloped study area is the Candlestick-Barnabe complex, which is mapped in the comparable undeveloped parcel west of the skate park, and may have been the native soil type prior to widespread development of the Linda Mar neighborhood. The Barnabe soil series describes shallow well-drained soils formed from sandstone and shale[19], while the Candlestick soil series is moderately steep, well-drained soils[20] (*i.e.*, on the surrounding hillsides). Neither soil series is considered hydric (though this does not preclude hydric soils from forming where these series area mapped).

Soil samples examined to determine the northern wetland boundary were typically sandy to sandy loam, with some clay, to depths of greater than 18 inches. Several samples (1A, 1C, 2A, 2B, 3B, 3C; see wetland delineation data forms in the attachments) exhibited redoximorphic features in the form of concentrations of oxidized iron minerals indicating the soils have been (but are not necessarily currently) subject to saturation by a seasonally high water table. These samples met the "Sandy Redox (S5) hydric soil indicator[21].

Soils examined near the southern boundary of the City parcel, as described in detail below, and on the wetland data forms. Sample points SP-1 and SP-2 are representative of past alterations (*i.e.,* filling or grading) that have raised the land surface

and SP-3) are different than in the north, as described below:

Sample Point SP-1 is at the location of the proposed emergency riser within the City's existing drainage easement, next to the wooden backyard fence and close to an existing underground storm drain that carries stormwater and urban nuisance drainage from residential neighborhoods west toward the Anza Pump Station on Pacifica State Beach). The sample location is in a small depression that will facilitate drainage when water accumulates on the southern part of the City and Murphy parcels. The soil in this location is a clay loam consisting of a dark surface horizon (0-6 inches; 10YR2/1) lacking redoximorphic features. The lower horizon consists of pale yellow coarse gravelly clay (6-18+ inches; 10YR3/4 and 2.5Y3/3), with angular gravel that suggests its origin is either fill or overburden placed when the neighboring yards were extended into the drainage easement. The soil does not exhibit indicators of prolonged inundation or saturation, and is presumed not to be hydric (*i.e.,* not a wetland soil).

To the east of SP-1, a slight rise of 1 to 2 feet separates the proposed riser location from the area where wetland hydrology is apparent as prolonged inundation and soil saturation supporting the willow-dominated portion of the study area. **Sample Point SP-2** is located on the slight topographic rise. The ground

[18] USDA. 2014. *Ibid*. (soil report, see Attachment).

[19] USDA. 2003. *Barnabe Series*. Official Soil Series Descriptions and Series Classification. https://soilseries.sc.egov.usda.gov/OSD_Docs/B/BARNABE.html

[20] USDA. 2003. *Candlestick Series*. Official Soil Series Descriptions and Series Classification. https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CANDLESTICK.html

[21] U.S. Department of Agriculture, Natural Resource Conservation Service (USDA NRCS). 2010. *Field Indicators of Hydric Soils in the United States, Version 7.0.* L.M Vasilas, G.W. Hurt and C.V. Noble, eds. In cooperation with the National Technical Committee for Hydric Soils. Available online at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046970.pdf

surface is relatively bare, with yard waste debris. Soil at SP-2 is also likely fill material, with a pale yellow gravelly clay surface horizon (0-9 inches; 10YR5/6) with inclusions of darker organic-enriched material (10YR3/2). Below this is a transitional stratum of coarse gravelly clay (9-15 inches; 2.5YR3/2). Below 15 inches, the soil transitions to sandy clay, possibly the cut and fill orthents that are mapped in the Soil Survey report. The color is pale yellow (2.5Y3/2) with up to 2% redox concentrations (7.5YR5/8) indicating periodic endosaturation from seasonal high groundwater. Although the deeper horizon indicates influence from nearby areas of prolonged saturation, the overall profile at this sample point does not conform to the hydric soil criteria.

The topography at Sample Point SP-2, adjacent to the wooden backyard fence line, is slightly higher in elevation than the area of prolonged inundation and soil saturation supporting the willow-dominated portion of the study area to the north. The sample point likely experiences periods of inundation or saturation following significant storm events, but it is not a persistent condition.

None of the three criteria (vegetation, soil or hydrology) are met, therefore, Sample Point SP-2 is not a wetland.

Sample Point SP-3 is located in the middle of the arroyo willow thicket, approximately 20 feet north of the wood fence. Vegetation, soil and hydrology conditions differ markedly from SP-1 and SP-2. Willow trees and shrubs at this location support a dense canopy, and meet the hydrophytic vegetation criterion. California blackberry also is present, but no other plants species are in the understory; the ground covered with accumulated branches and decomposing plant debris.

The soil is native (not fill), and exhibits hydric characteristics: from 0-6 inches, it is black organic enriched silty clay (10YR2/1); from 6-15+ inches, it is saturated gravelly clay (2.5Y3/2 and 2.5Y4/2), with 5% dark inclusions (10YR/2/1) of illuviated clay and/organic matter, and distinct redox concentrations of 2.5Y3/6. This soil meets the hydric soil definition of "Redox Dark Surface"[22] at sample point SP-3.

All three wetland criteria are met at SP-3, therefore SP-3 is a wetland.

HYDROLOGY

The study area is not located on a stream or near other surface waters. No wetlands or other surface waters are shown in the National Wetlands Inventory (NWI) as occurring on the City or Murphy parcels. The California Aquatic Resource Inventory (CARI) shows a stream channel crossing the parcel, classified as "Fluvial Unnatural". While no such channel is located on the parcel, the mapped feature does correspond to an existing drainage easement at the southwestern border of the parcel, which could carry overflow from the City and Murphy parcels toward the west-northwest to a buried drainage culvert with drain inlets, and ultimately pumped to the Pacific Ocean at the Anza Pump Station. However, there is no evidence that water from the project parcels moves via this hypothetical drainage pathway. These maps are often imprecise due to the mapping scale and scope, which may be an indication of changes in land use and drainage, and stormwater management. The two parcels are nearly enclosed by surrounding development, from which it has received stormwater runoff (*i.e.*, from the roof of the Crespi Center to the east (580 Crespi Drive), and possibly from the Community Center and parking lot to the west.

[22] U.S. Department of Agric., Nat. Res. Consv. Serv. 2010. *Field Indicators of Hydric Soils.in the United States.* Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds). USDA, NRCS, in cooperation with the National technical Committee for Hydric Soils.

Historic aerial photographs from as early as 1946 (predating development of the Pedro Valley and Linda Mar, show that the parcels are not in the path of drainage from either the Linda Mar neighborhood in general, or the remnant stream segments that are located in the hills to the north east, across Crespi Drive. Similar hydrological conditions appear in 1956 (see Figure 4); although residential development was well underway, parcels adjacent to and near the study area are still relatively vacant, and the study area itself is occupied by one or more residences and outbuildings. By 1980, however, following construction of the original parking lot where the City's Wet Weather Equalization Basin and skate park are now located, there is some evidence of willows or other wetland vegetation beginning to develop at the lowest part of the southwestern end of the parcels (the southwestern end), possibly in response to restriction of runoff imposed by the parking lot (Figure 5).

During 2017 and 2018, construction of the City's Wet Weather Equalization Basin required groundwater pumping. It is likely that the local water table, including the adjacent City and Murphy parcels, was drawn down to some degree. Soils in the region have a high proportion of sand, which is not effective at retaining water when groundwater is being removed nearby.

Although groundwater extraction is not ongoing as part of operation of the basin, there is a drainage system that removes surface runoff and, presumably, shallow groundwater. This system could continue to remove shallow groundwater from the upper soil horizon within the study area. Observers have remarked that the shallow pond in the study area did not retain water during the winter of 2019-2020, preceding the 2020 delineation field work. At that time, no sample point locations exhibited surface or shallow groundwater, although there was evidence in several samples (redoximorphic features in the form of iron mineral concentrations and reduced matrices) that the soils had developed under conditions that likely included seasonally high groundwater to within 12 inches of the soil surface. However, other evidence (lack of observed water table, abundance of worm burrows, and elevation above the presumed high water line of the former pond), suggest that the redoximorphic evidence is relictual, *i.e.,* indicative of past hydrologic conditions, not current conditions. The seasonal wetland zone that is transitional between the wetter emergent marsh and arroyo willow vegetation (Figure 2) may also be an expression of changes in shallow groundwater since the construction of the Equalization Basin. Two delineation sample points (1A and 3B; see Figure 3) lack indicators of wetland hydrology, but retain hydrophytic vegetation and soil indicators (*i.e.* redoximorphic features) that were considered the strongest wetland indicators in the 2014 delineation.

Compared to the 2014 delineated wetland boundary, the northern wetland boundary has shifted slightly toward the southwest, following the topographic contour. Following the exceptionally wet winter of 2022-2023, ponding on the project parcels was temporarily more extensive and longer in duration than in previous years, requiring pumping from neighboring properties. In April 2023, the wetland sample points bracketing the northern wetland boundary were re-examined in the field but did not indicate any difference from the 2020 delineation.

In the southwestern part of the City parcel, closer examination of the wetland boundary in March and April, 2022, indicated wetland hydrology corresponding with arroyo willows and subtle topographic contours. Groundwater was observed at a depth of 15 inches. The ground slopes slightly to the north, where standing water was accumulated at the surface, providing a clear indication of the seasonally high water table that supports the willow-dominated wetland in the majority of the southern part of the study area. The hydrology criterion was met at sample point SP-3. Near sample point SP-1, slight rise of 1 to 2 feet separates the proposed riser location from the area where wetland hydrology is evident as prolonged inundation and soil saturation supporting the willow-dominated portion of the study area. Sample points

SP-1 and SP-2, located on the higher ground, likely experience periods of inundation or saturation following significant storm events, but not as a persistent condition that meets the hydrology criterion.

WETLANDS

Table 2 summarizes the areas of wetlands and non-wetland (uplands) in the study area. All aquatic resources in the study area are wetlands; there are no open waters (*i.e.*, other waters of the U.S.). All areas are preliminary and subject to verification by the USACE if proposed project activities would result in discharge of fill into aquatic resources determined to be jurisdictional. Areas of waters of the state within the study area are assumed to be equal to waters of the U.S.

The northern wetland boundary is inferred from the location of one sample point where all three wetland criteria were met (sample point 2A) and two sample points where direct evidence of wetland hydrology is lacking but could be inferred from soil indicators (1A and 3B; see Figure 3). The latter two points are considered to be non-wetland, but on the boundary. All three points are located at or below the 10-foot contour, as shown on a topographic survey of the Murphy parcel[23]. The willow vegetation type is bisected by the wetland boundary, resulting in a portion of arroyo willow scrub that meets the wetland criteria and a portion that does not. Seasonal wetland is mapped in the transitional zone. This is consistent with the interpretation that site hydrology has changed toward drier conditions since groundwater pumping during construction of the City's Wet Weather Equalization Basin.

The southern wetland boundary was established between the one sample point where all three wetland criteria were met (SP-3) and two sample points where the criteria were not met (SP-1 and SP-2). Sample point SP-3 is located in the interior of the arroyo willow thicket and in the topographic depression where soils are inundated or saturated for a significant part of the growing season.

UPLANDS

Upland areas that do not meet the wetland criteria were confirmed by six sample points near the northern wetland boundary (1B, 1C, 2B, 2C, 3C and 3D) and at two points near the southern wetland boundary (SP-1 and SP-2). A combination of vegetation, soils or hydrology failed to meet the wetland criteria at these locations. Additionally, these points are located higher on the topographic gradient.

Table 2. Wetlands and Uplands in the Study Area

FEATURE TYPE (SAMPLE PT.)	WETLAND	UPLAND	TOTAL
Arroyo willow scrub	0.460 ac (20,037 sf)	0.090 ac (3,920 sf)	0.550 ac (23,958 sf)
Emergent marsh	0.240 ac (10,454 sf)	0.000 ac (0.0 sf)	0.240 ac (10,454 sf)
Seasonal wetland	0.060 ac (2,614 sf)	0.000 ac (0.0 sf)	0.060 ac (2,614 sf)
Non-native annual grassland	0.000 ac (0.0 sf)	0.400 ac (17,424 sf)	0.400 ac (17,424 sf)
Disturbed and ornamental	0.000 ac (0.0 sf)	0.980 (42,689 sf)	0.980 (42,689 sf)
Total	**0.760 ac (33,105 sf)**	**1.470 ac (64,033 sf)**	**2.230 ac (97,138 sf)**

[23] B & H Surveying, Inc. 2014. *Boundary and Topographic Survey, Lands of Murphy*. APN 022-162-310.

JURISDICTIONAL ANALYSIS

Recent changes to the definition of waters of the U.S. have resulted in changes in the interpretation of the federal jurisdictional status of the wetland on the City and Murphy parcels. In 2020, at the time of the first wetland delineation update, the U.S. Environmental Protection Agency and the Department of the Army's (USACE) Navigable Waters Protection Rule (NWPR) was in effect. The NWPR included *adjacent wetlands*, which could be separated from waters of the U.S. by an artificial structure so long as that structure allows for a direct hydrologic connection between the adjacent wetlands and waters of the U.S. The 2020 wetland delineation acknowledged that the wetland on the project parcels could be considered jurisdictional by virtue of its potential connection to the ocean by way of the drainage easement, stormwater sewer, and Anza Pump Station.

In January, 2023, the Navigable Waters Protection Rule was repealed and replaced with a new revised rule. In August, 2023, and as a result of the Supreme Court of the United States decision on *Sackett v. EPA*[24], the Environmental Protection Agency and U.S. Army Corps of Engineers announced a final rule revising the definition of "waters of the United States" (see Regulatory Definitions, above), which went into effect on September 8, 2023. According to this rule, *adjacent wetlands* must be contiguous with navigable waters, *i.e.*, with a continuous[25] surface water connection. The wetland on the City and Murphy properties does not exhibit a continuous surface water connection to navigable waters (the Pacific Ocean, in this case), because it is interrupted by (a) drainage swale that exhibited no flow during the wet winter of 2022-2023; (b) a subsurface storm drain system that would capture any flow, should it occur; and (c) a system of flood control pumps that would be required to discharge flow to the ocean.

In the southwestern corner of the study area, surface water (*i.e.*, in excess of what percolates on site or is pumped from neighboring properties) *could* enter the shallow drainage swale that flows west-northwest toward Highway 1, parallel with the backyard fences of houses on Anza Drive. This swale follows the route of a buried 24-inch storm drain culvert. At least two drain inlets to the culvert are located at ground surface level within the undeveloped parcel between the skate park and Highway 1. The culvert crosses Highway 1 under the north entrance to the parking lot for Pacifica State Beach, where it connects to the Anza Pump Station, which discharges directly to the Pacific Ocean. However, following the exceptionally wet winter of 2022-2023, there was no evidence of surface water flow exiting the City and Murphy parcels by way of the drainage easement except by way of the underground storm sewer. Although higher water levels did occur following the large rain events, necessitating pumping from neighboring properties, it does not appear that the water level overtopped the low berm in the southwest corner of the City parcel.

The wetland on the City and Murphy parcels is never inundated by water from the Pacific Ocean by way of the culvert and swale, nor from any tributary that enters the site (there are none). Therefore, the wetlands in the study area, although they exhibit field indicators consistent with jurisdictional wetlands, do not appear to meet the current regulatory definition of federal jurisdictional waters of the U.S. under Section 404 of the Clean Water Act. Because the proposed project does not propose any actions resulting in a discharge of fill into the wetlands, development of the proposed project does not require a Section 404 permit under the USACE regulatory program.

Most of the wetland (excluding a portion of the arroyo willow scrub that failed to meet all three wetland criteria) would still be considered waters of the state subject to regulatory review by the San Francisco

[24] 8 F.4th 1075 (9th Cir. 2021), *cert. granted* Jan. 24. 2022.

[25] As used here, "continuous" means spatially connected or physically uninterrupted, not continuously inundated or flowing.

Bay Regional Water Quality Control Board but only if actions were proposed that resulted in wetland fill or degradation of water quality. Waters of the state are more broadly defined according to recently published guidance[26].

EFFECTS ANALYSIS

Waters of the U.S.

Because of the absence of a continuous surface hydrological connection to navigable waters, the wetlands in the study area do not appear to meet the current regulatory definition of federal jurisdictional waters of the U.S. under Section 404 of the Clean Water Act. Additionally, because the proposed project does not propose any actions resulting in a discharge of fill into jurisdictional wetlands or other waters, development of the proposed project does not require a Section 404 permit under the USACE regulatory program.

Waters of the State

Waters of the State include waters of the U.S., but may also include areas that do not meet the criteria for federal jurisdictional status. The State wetland definition is:

> "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

The State wetland definition relies on the federal delineation method to identify state wetlands. On the City and Murphy parcels, the central area of arroyo willow scrub, freshwater emergent marsh and transitional seasonal wetland have been shown to meet this definition (see cross-hatched portions of Figure 3), while the areas mapped as arroyo willow scrub (non-JD) do not satisfy criteria (1) or (2).

The proposed project would remove or prune an estimated 784 sf of arroyo willow scrub to meet parking and walkway requirements at the southern edge of Building B. This portion of arroyo willow scrub does not meet all three wetland criteria *(i.e.*, soil and hydrology indicators are lacking), therefore is not included in the wetland total. The proposed project also would result in planting of 1,170 sf of willow scrub (see Sheet A1.13 of design submittal). This project element would avoid fill discharge into waters of the state and would not result in substantial impacts to beneficial uses as defined in the Basin Plan[27]. However, if required, the project would comply with applicable water quality regulations, such as acquiring Waste Discharge Requirements through the San Francisco Bay Water Quality Control Board.

Riparian Habitat

The California Department of Fish and Wildlife regulates alteration of streams and lakes beds through its Stream and Lakebed Alteration authorization program (California Fish and Game Code Section 1600 *et-seq.*). Although the small area of area of arroyo willow scrub that would be removed is not associated with a stream or lakebed setting, the CDFW may consider that this area meets its interpretation of riparian vegetation, and require notification, review, and authorization under SAA. If so required, the project

[26] California Water Boards. 2021. *Ibid.*

[27] California Regional Water Quality Control Board (CRWQCB). 2011. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* San Francisco Bay Region. Available online at https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html

would obtain and comply with Stream and Lakebed Alteration Agreement conditions. As described above the proposed project includes replacement of the willows that would be removed.

ATTACHMENTS

Figure 1 – Study Area Location

Figure 2 – Study Area

Figure 3 – Jurisdictional Map

Figure 4 – Topographic Survey

Figure 5 – Aerial photograph, 1956

Figure 6 – Aerial photograph, 1980

Wetland Delineation Data Forms

Representative Photographs

Soils Report

WETS Tables

National Wetland Inventory Map

California Aquatic Resource Inventory Map

Figure 1. Study Area Location

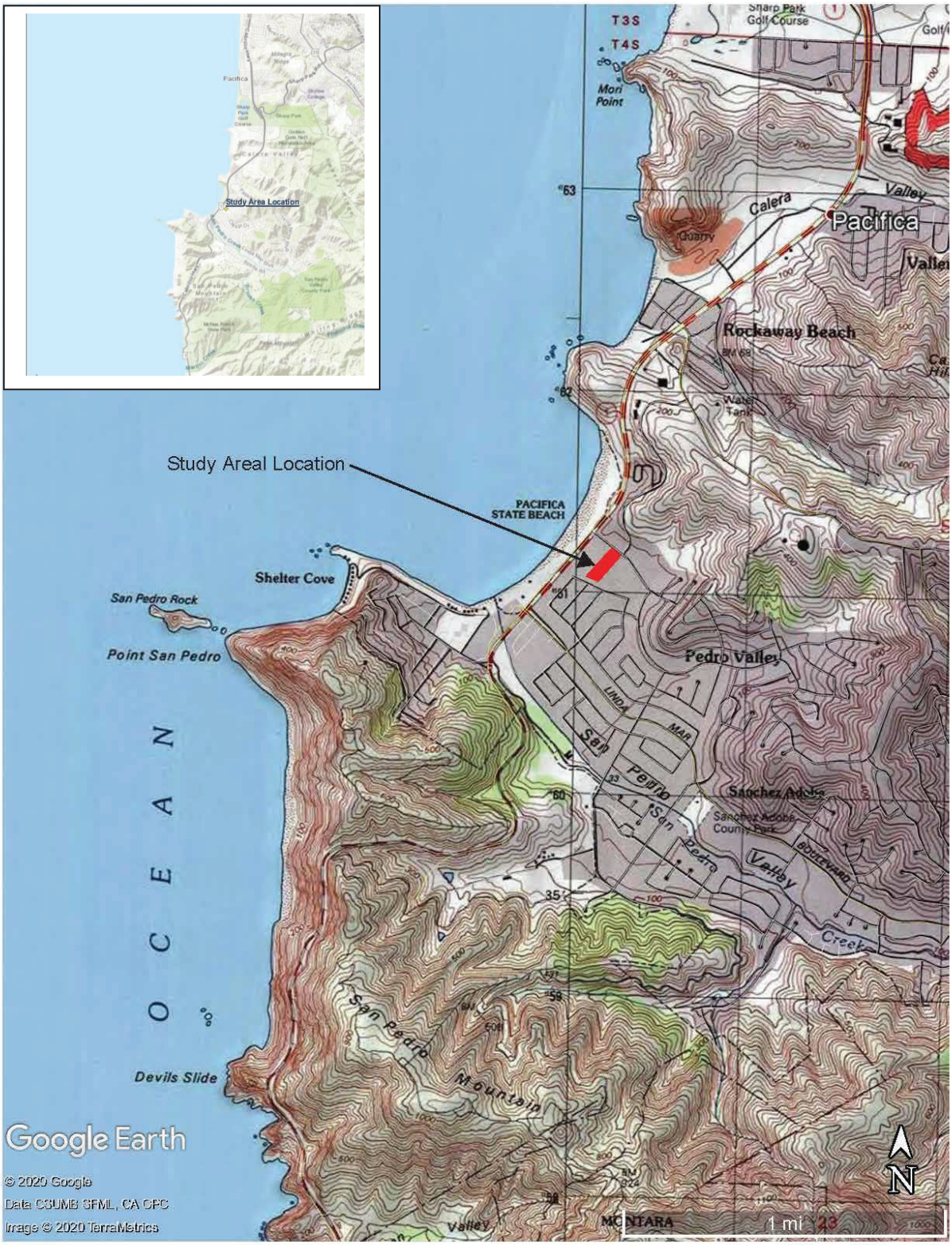

Figure 2. Study Area

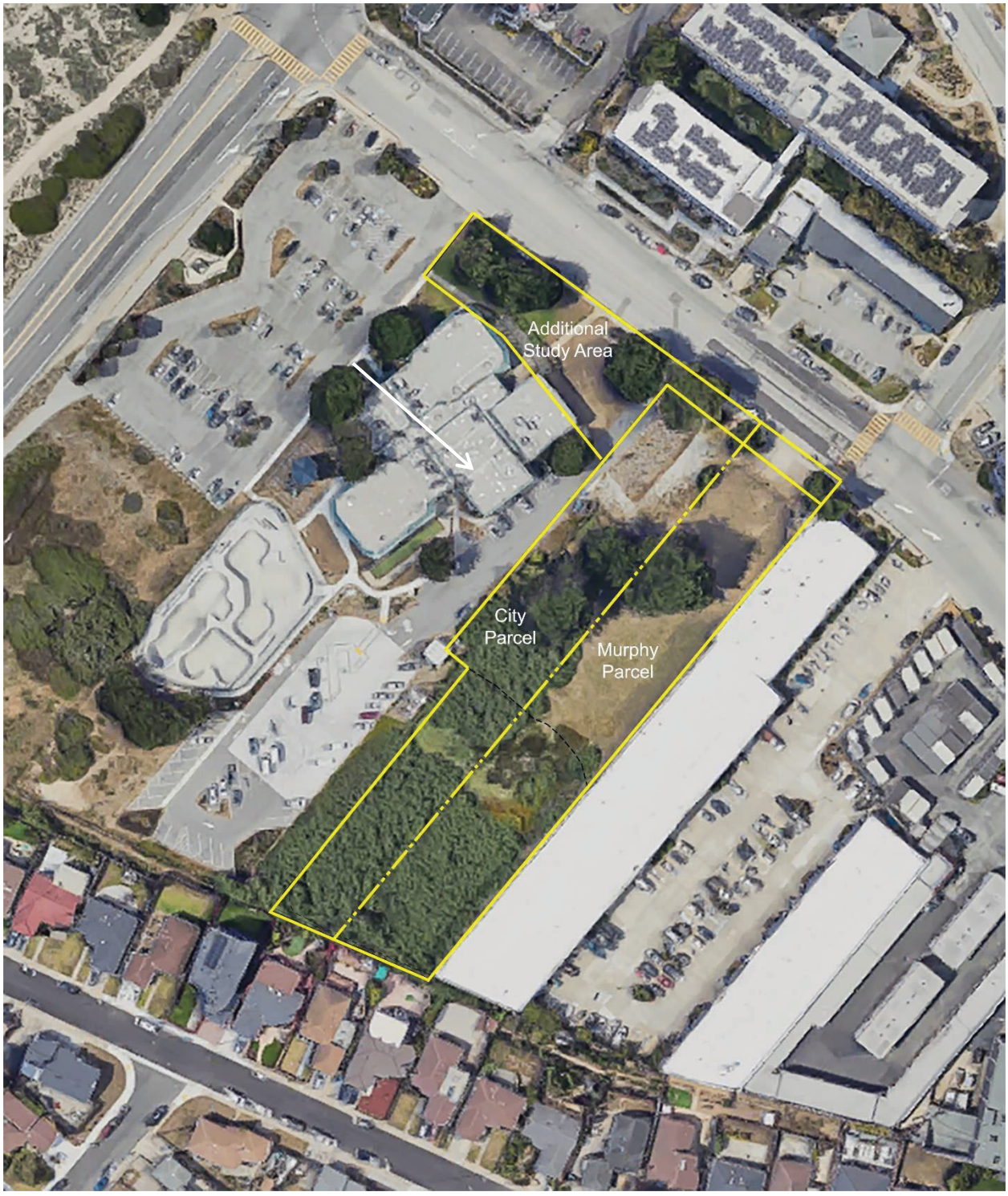

Figure 3. Wetland Map

Figure 4. Topographic Map

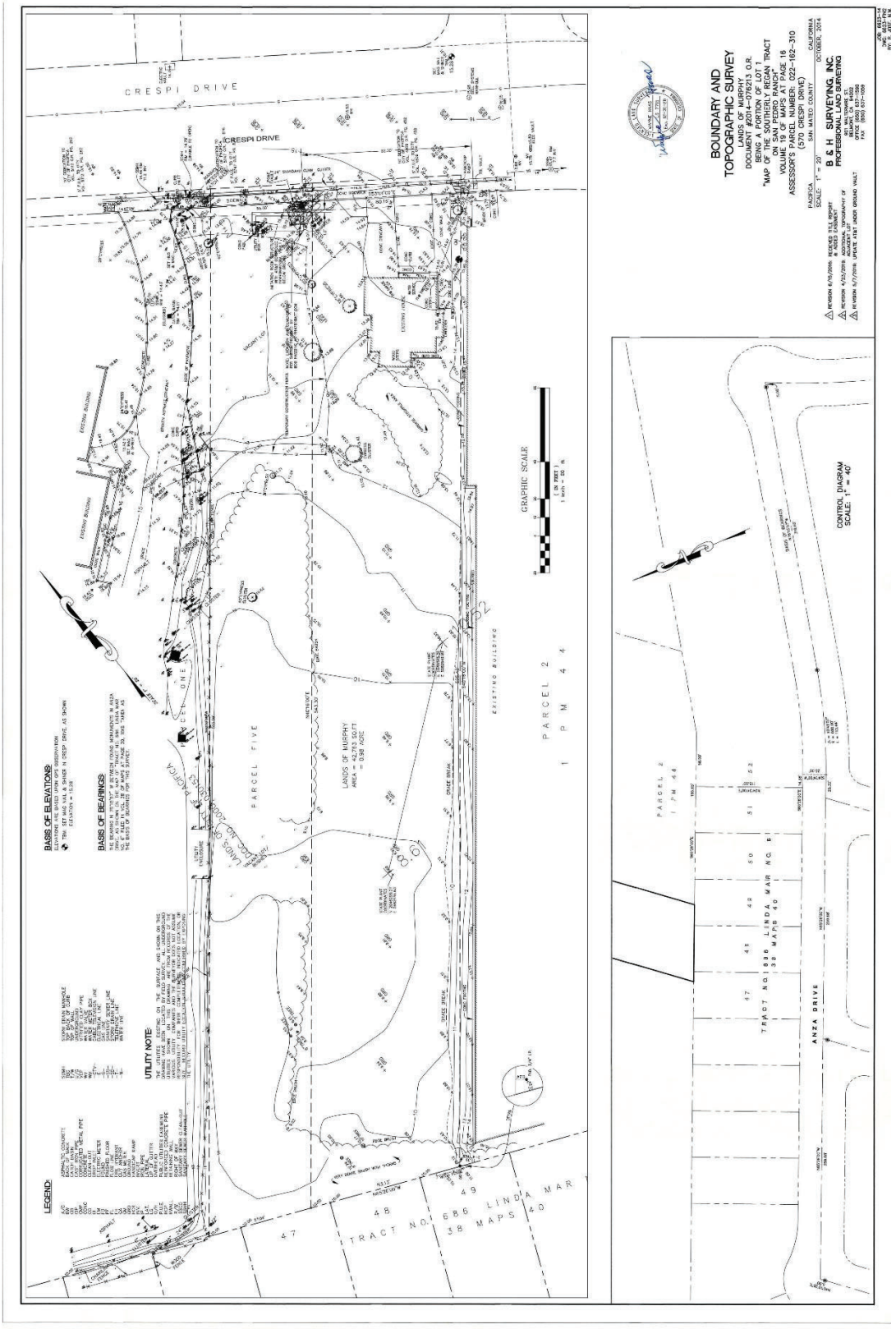

Figure 5. Aerial photograph (1956)

No evidence of wetland vegetation within the study area, most of which is in active use. No surrounding development has occurred yet.

Figure 6. Aerial photograph (1980)

Dark vegetation within the study area suggests wetlands forming following construction of parking lot, which may have limited lateral movement of shallow groundwater.

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica / San Mateo Sampling Date: 7/19/20
Applicant/Owner: Bay Work's Constr. Inc. State: CA Sampling Point: 1A
Investigator(s): C. Rogers / Wood Bio. Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): A Lat: 37°35' 52.28" Long: 122°29'57.31" Datum:
Soil Map Unit Name: Candlestick-Barnabe NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes No X
Is the Sampled Area within a Wetland? Mapped on boundary Yes No X

Remarks: All criteria not met. Sample located near lowest topo where seasonal ponding used to occur prior to GW pumping for EQ basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 2M Ø)			
1. Salix lasiolepis	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 2M Ø)			
1. Juncus balticus	25	Y	FACW
2. Potentilla anserina	10	N	OBL
3. Holcus lanatus	25	Y	FAC
4. Cirsium vulgare	8	N	FACU
5. Persicaria punctata	3	N	OBL
6. Rubus ursinus	2	N	FACU
7. Geranium dissectum	1	N	NL
8.			
9.			
10.			
11.			
	72 = Total Cover		
Woody Vine Stratum (Plot size: 2M Ø)			
1. Rubus ursinus	2	Y	FACU
2.			
	2 = Total Cover		

% Bare Ground in Herb Stratum 6

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	13	x 1 =	13
FACW species	45	x 2 =	90
FAC species	25	x 3 =	75
FACU species	10	x 4 =	40
UPL species	1	x 5 =	5
Column Totals:	94 (A)		223 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Sample point located near edge of increasingly dense wetland vegetation.

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N/A		N/A					Organic litter
2-11	2.5Y 3/3	75					sandy	
	10YR 3/2	25	not redox				clay loam	
11-18+	2.5Y 4/4	80	2.5Y 4/1	18	RM	M	sandy clay	
			10YR 5/8	2	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: Redox in sandy horizon w/in 12" of surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No direct evidence of hydrology, but

Remarks: evidence of seasonal high water table in reduced and oxidized soil. Suspect this area is drying due to GW pumping during constr. of EQ basin.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica / San Mateo Sampling Date: 7/19/20

Applicant/Owner: Bayworks Constr. Inc. State: CA Sampling Point: 1B

Investigator(s): C. Rogers / Wood Biological Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR): A Lat: 37°35'52.41" Long: -122°29'57.09" Datum:

Soil Map Unit Name: Candlestick-Barnabe (see note in Soils) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	

Remarks: May have been wetter before EQ basin. Some evidence of seasonal saturation below 9".

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 2m Ø)			
1. Festuca perennis	35	Y	FAC
2. Potentilla anserina	5	N	OBL
3. Persicaria punctata	3	N	OBL
4. ~~Rubus ursinus~~	~~1~~	~~N~~	~~FACU~~
5. Geranium dissectum	<1	N	NL
6.			
7.			
8.			
9.			
10.			
11.			
	44 = Total Cover		
Woody Vine Stratum (Plot size: 2m Ø)			
1. Rubus ursinus	1	Y	FACU
2.			
	1 = Total Cover		

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 8	x 1 = 8
FACW species 0	x 2 = 0
FAC species 35	x 3 = 105
FACU species 1	x 4 = 4
UPL species 1	x 5 = 5
Column Totals: 45 (A)	122 (B)

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- __ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ 5 - Wetland Non-Vascular Plants[1]
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Non-dominant hydrophytes poss. remnant of previous wetter conditions before GW pumping during constr. of EQ basin. Facultative generalist Fest. per. becoming dominant.

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N/A		N/A					organic, litter
2-9	10YR 2/1	90	—				Sandy clay loam	
	10YR 3/3	10	not redox				sandy inclusions	
9-18+	2.5Y 4/2	95	7.5Y 5/8	5	C	M	Sand	aerated w/ earthworms

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Redox too deep for S5, or F7. Relict of past GW; lower horizon drier than before, w/ abund. earthworms, so seasonal saturation at depth, at most.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Gently sloping toward lower topo and increasingly hydrophytic veg.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica/San Mateo Sampling Date: 7/19/20
Applicant/Owner: Bayworks Constr. Inc. State: CA Sampling Point: 1C
Investigator(s): C. Rogers/Wood Biological Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): A Lat: 37°35'52.58" Long: 122°29'56.9" Datum:
Soil Map Unit Name: Candlestick-Barnabe (see note in soils) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Lacks wetland hydrology; approximately 2 ft above low point that used to pond water. GW pumping for adjacent EQ basin may have lowered water table. Lacks wetl. vegetation

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 2M Ø)			
1. Holcus lanatus	30	Y	FAC
2. Festuca perennis	10	Y	FAC
3. Rubus ursinus	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 2M Ø)			
1. Rubus ursinus	5	Y	FACU
2.			
	5 = Total Cover		

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 40	x 3 = 120
FACU species 5	x 4 = 20
UPL species 0	x 5 = 0
Column Totals: 45 (A)	140 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No X

Remarks: Non-hydric vegetation, Marginal.

SOIL

Sampling Point: 1C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N/A		N/A					Organic, litter
2-6	10YR 2/1	100	N/A				Clay loam	Loose friable, root zone
6-12	10YR 4/2	60	10YR 5/8	5	C	M	Sandy loam	3/4" ø willow root
	10YR 2/1	35						
12-18	2.5Y 5/3	798	10YR 5/8	<2	C	M	sand	earthworms to 12"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks: Exhibits remnant hydric indicators.

Soil mapped as Urban Land, but more closely matches Candlestick-Barnabe complex, which is mapped on adjacent undeveloped land.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Drive City/County: Pacifica / San Mateo Sampling Date: 7/19/20
Applicant/Owner: Bay Works Constr. Inc. State: CA Sampling Point: 2A
Investigator(s): C. Rogers / Wood Bio. Section, Township, Range:
Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): Ø
Subregion (LRR): A Lat: 37° 35' 51.91" Long: 122° 29' 58.16" Datum:
Soil Map Unit Name: Candlestick - Barnabe NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Lowest wettest part of property, though may be drying due to recent GW pumping for Eq Basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 2M Ø)			
1. Potentilla anserina	40	Y	OBL
2. Typha latifolia	15	Y	OBL
3. Juncus balticus	10	N	FACW
4. Agrostis pallens	15	Y	FACU
5. Rumex crispus	1	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	81 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 19

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 55	x 1 = 55
FACW species 10	x 2 = 20
FAC species 1	x 3 = 3
FACU species 15	x 4 = 60
UPL species 0	x 5 = 0
Column Totals: 81 (A)	138 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Veg in lowest area that used to pond is distinct from veg on slightly higher ground.

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	2.5Y 4/1	98	7.5YR 5/8	2	C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

In lowest area, subject to past ponding.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

In past, this area ponded annually. Appears to be drying, prob. following GW pumping for EQ basin. Passes FAC-NEUTRAL test.

Note: observations of standing water greater than 14 days duration in 2022 and 2023.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica/San Mateo Sampling Date: 7/19/20

Applicant/Owner: Bayworks Constr. Inc. State: CA Sampling Point: 2B

Investigator(s): C. Rogers / Wood Bio. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None Slope (%): 1%

Subregion (LRR): A Lat: 37°35'52.62" Long: 122°29'57.40" Datum: _____

Soil Map Unit Name: Candle Stick-Barnabe NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: Lacks hydrology. More than 2ft above low point that used to pond water prior to GW pumping during construction of EQ Basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 2M∅)			
1. Atriplex prostrata	5	N	FAC
2. Potentilla anserina	12	Y	OBL
3. Holcus lanatus	29	Y	FAC
4. Rubus ursinus	5	N	FACU
5. Symphiotrichum chilense	1	N	FAC
6. Festuca perennis	3	N	FAC
7.			
8.			
9.			
10.			
11.			
	41 = Total Cover		
Woody Vine Stratum (Plot size: 2M∅)			
1. Rubus ursinus	5	Y	FACU
2.			
	5 = Total Cover		

% Bare Ground in Herb Stratum 54

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	0	x 2 =	0
FAC species	29	x 3 =	87
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	46 (A)		119 (B)

Prevalence Index = B/A = 2.58

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: Sample point at upper topographic limit of Potentilla (OBL).

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	N/A		N/A					organic
1-8	10YR 2/1	50	7.5YR 4/6	2	C	M	Sandy clay loam	
	2.5Y 4/3	48	not redox				Sandy inclusions	
8-18+	2.5Y 4/4	60	2.5Y 4/1	40	RM	M	Sand w/ reduced matrix sandy clay	
								earthworms below 8"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks: Marginally hydric; may be relictual water before EQ basin GW pumping.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators of recent, ongoing shallow GW.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica/San Mateo Sampling Date: 7/19/20
Applicant/Owner: Bay Works Constr. Inc. State: CA Sampling Point: 2C
Investigator(s): C. Rogers / Wood Bio. Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 1%
Subregion (LRR): A Lat: 37°35'53.06" Long: 122°29'56.97" Datum:
Soil Map Unit Name: Candlestick - Barnabe NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: No indicators. Up-gradient part of property

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 2M Ø)			
1. Salix lasiolepis	5	Y	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 2M Ø)			
1. Holcus lanatus	25	Y	FAC
2. Rubus ursinus	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: 2M Ø)			
1. Rubus ursinus	10	Y	FACU
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 65

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 5	x 2 = 10
FAC species 25	x 3 = 75
FACU species 10	x 4 = 40
UPL species 0	x 5 = 0
Column Totals: 40 (A)	125 (B)

Prevalence Index = B/A = 3.125

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Marginally hydrophytic veg.

SOIL

Sampling Point: 2C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	organic							
1-3	10YR 2/1	100	N/A				clay loam - loose, friable,	no peds
3-18	2.5Y 4/4	80	N/A				sandy - loose, friable	
	2.5Y 4/1	20	N/A				clay inclusions	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica/San Mateo Sampling Date: 7/19/20

Applicant/Owner: BayWorks Constr. Inc. State: CA Sampling Point: 3B

Investigator(s): C. Roges/Wood Bio. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): A Lat: 37°35'52.67" Long: 122°29'57.91" Datum: _____

Soil Map Unit Name: Candlestick-Barnabe NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	Is the Sampled Area within a Wetland? Yes X No _____ Mapped at margin
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: All criteria met, though hydrology may be decreasing due to GW pumping during recent construction of EQ Basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 2M Ø)			
1. Salix lasiolepis	60	Y	FACW
2.			
3.			
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: 2M Ø)			
1. Rubus ursinus	10	Y	FACU
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	0
FACW species 60	x 2 =	120
FAC species 0	x 3 =	
FACU species 10	x 4 =	40
UPL species 0	x 5 =	
Column Totals: 70 (A)		160 (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: Dense willow scrub, covers majority of lower elev. part of property.

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5Y3/2	90	10YR 5/8	10	C	M	Sandy loam	
10-18+	2.5Y 4/1	95	10YR5/8	5	C	M	Sandy clay, reduced	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks: Reduced sandy soil w/ redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No direct evidence of hydrology, but evidence of seasonal high water table in reduced and oxidized shallow horizon.

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica / San Mat Sampling Date: 7/19/20
Applicant/Owner: BayWorks Constr. Inc. State: _____ Sampling Point: 3C
Investigator(s): C. Rogers / Wood Biological Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): A Lat: 37°35'53.19" Long: -122°29'57.52" Datum: _____
Soil Map Unit Name: Candlestick-Barnabe NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	
Hydric Soil Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Wetland Hydrology Present?	Yes _____	No X	

Remarks: At edge of willows, appears to have had wetter soil in past, pres. before GW pumping for EQ basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Hesperocyparis macrocarpa	70	Y	NL
2.			
3.			
4.			
	70 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix lasiolepis	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Rubus ursinus	15	Y	FACU
2. Cortaderia jubata	7	Y	FACU
3. Hedera helix	3	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	15	Y	FACU
2.			
	15 = Total Cover		

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 20	x 2 = 40
FAC species 0	x 3 = 0
FACU species 25	x 4 = 100
UPL species 70	x 5 = 350
Column Totals: 115 (A)	490 (B)

Prevalence Index = B/A = 4.26

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Edge of willow scrub.

SOIL

Sampling Point: 3C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	N/A		N/A				Organic	
1-6	10YR 3/2	100	no redox				sandy loam	
6-18+	2.5Y 4/2	90	7.5YR 5/8	10	C	M	sand	very damp

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks: Marginally hydric, poss. relict at wetter conditions before GW pumping during EQ basin construction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Relictual evidence of high GW, not current.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 570 Crespi Dr. City/County: Pacifica/San Mateo Sampling Date: 7/19/20
Applicant/Owner: Bay Works Constr. Inc. State: CA Sampling Point: 3D
Investigator(s): C. Rogers/ Wood Bio Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): A Lat: 37°35' 53.49" Long: 122°29'57.25" Datum:
Soil Map Unit Name: Candlestick-Barnabe NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: No indicators

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5M0)	Absolute % Cover	Dominant Species?	Indicator Status
1. Hesperocyparis macrocarpa	40	Y	NL
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size: 2M0)			
1. Cortaderia jubata	10	Y	FACU
2. Rubus ursinus	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 2M0)			
1. Rubus ursinus	10	Y	FACU
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	0	x 3 =	
FACU species	20	x 4 =	80
UPL species	40	x 5 =	200
Column Totals:	60 (A)		280 (B)

Prevalence Index = B/A = 4.7

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Non - hydrophytic veg.

SOIL

Sampling Point: 3D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	2.5Y4/4	90					Sandy	
	2.5Y4/1	8	10YR5/8	2	C	M	Sandy w/ clay inclusions	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Some relictual evidence of past high GW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 570 Crespi Drive | City/County: Pacifica / San Mateo | Sampling Date: 4/4/2022

Applicant/Owner: Brendan and Eamon Murphy | State: CA | Sampling Point: SP-1

Investigator(s): Chris Rogers | Section, Township, Range: S10 T4S R6W

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): concave | Slope (%): <1

Subregion (LRR): LRR A, MLRA 4B | Lat: 37.595511 | Long: -122.500189 | Datum:

Soil Map Unit Name: Urban Land-Orthents, cut and fill complex 0-5% slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
No criteria are met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Myoporum laetum*	50	Yes	UPL
2. *Salix lasiolepis*	10	No	FACW
3.			
4.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 2m)			
1. *Phoenix canariensis*	1	No	UPL
2.			
3.			
4.			
5.			
	1	=Total Cover	
Herb Stratum (Plot size: 2m)			
1. *Oxalis pes-caprae*	2	No	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	2	=Total Cover	
Woody Vine Stratum (Plot size: 2m)			
1. *Rubus ursinus*	5	Yes	FACU
2.			
	5	=Total Cover	

% Bare Ground in Herb Stratum 98

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	53	x 5 =	265
Column Totals:	68 (A)		305 (B)

Prevalence Index = B/A = 4.49

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:
Non-hydric vegetation dominates sample location. Arroyo willow (Salix lasiolepis; FACW) extend over sample point from plants rooted in area mapped as wetland.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loamy/Clayey	
6-18	10YR 3/4	100					Loamy/Clayey	coarse gravelly fill with 50% 2.5Y 3/3

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Coarse gravelly fill from backyard expansion, construction of wet weather equalization basin, or historic.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Shallow depression between backyard that was filled within drainage easement and berm at edge of City's parking lot. No evidence of ponding or inundation for long duration.

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 570 Crespi Drive | City/County: Pacifica / San Mateo | Sampling Date: 4/4/2022

Applicant/Owner: Brendan and Eamon Murphy | State: CA | Sampling Point: SP-2

Investigator(s): Chris Rogers | Section, Township, Range: S10 T4S R6W

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): concave | Slope (%): <1

Subregion (LRR): LRR A, MLRA 4B | Lat: 37.597490 | Long: -122.500134 | Datum:

Soil Map Unit Name: Urban Land-Orthents, cut and fill complex 0-5% slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Slight topographic rise at back of expanded backyard. Criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	Yes	FACW
2.			
3.			
4.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 2m)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 2m)			
1. *Oxalis pes-caprae*	2	No	UPL
2. *Zantedeschia aethiopica*	1	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	3	=Total Cover	
Woody Vine Stratum (Plot size: 2m)			
1. *Rubus ursinus*	30	Yes	FACU
2. *Amphilophium buccinatorium*	1	No	UPL
	31	=Total Cover	

% Bare Ground in Herb Stratum 98

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	3	x 5 =	15
Column Totals:	54 (A)		176 (B)

Prevalence Index = B/A = 3.26

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:
Non-hydric vegetation dominates sample location. Arroyo willow (Salix lasiolepis; FACW) extend over sample point from plants rooted in area mapped as wetland.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 5/6	100					Loamy/Clayey	Coarse gravelly clay; inclusions (not redox) of 10YR 3/2
9-15	2.5Y 3/2	98					Loamy/Clayey	Sandy clay loam
15-18	2.5Y 3/2	98	7.5YR 5/8	2	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Coarse gravelly fill from backyard expansion.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Slight topographic rise against back backyard fence. No hydrology indicators. The sample point likely experiences periods of inundation or saturation following significant storm events, but it is not a persistent condition.

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region

See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 570 Crespi Drive | City/County: Pacifica / San Mateo | Sampling Date: 4/4/2022

Applicant/Owner: Brendan and Eamon Murphy | State: CA | Sampling Point: SP-3

Investigator(s): Chris Rogers | Section, Township, Range: S10 T4S R6W

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): concave | Slope (%): <1

Subregion (LRR): LRR A, MLRA 4B | Lat: 37.597518 | Long: -122.500056 | Datum:

Soil Map Unit Name: Urban Land-Orthents, cut and fill complex 0-5% slopes | NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
All three criteria are met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	60	Yes	FACW
2.			
3.			
4.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 2m)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 2m)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		=Total Cover	
Woody Vine Stratum (Plot size: 2m)			
1. *Rubus ursinus*	15	Yes	FACU
2.			
	15	=Total Cover	

% Bare Ground in Herb Stratum 65

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	75 (A)		180 (B)
Prevalence Index = B/A =			2.40

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** x **No** ____

Remarks:
Non-hydric vegetation dominates sample location. Willow canopy extends over sample location from plants rooted in area mapped as wetland.

SOIL

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loamy/Clayey	Silty clay, organic; roots and worms.
6-15	2.5Y 3/2	48	2.5YR 3/6	2	C	M	Loamy/Clayey	Gravelly clay; 45% 2.5Y 4/2, 5% 10YR 2/1
15-20								groundwater

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Native soil, not fill (urban land/orthents) as mapped. Evidence of hydric soil resulting from long duration saturation and/or inundation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Ground slope to north where standing water is accumulated. Seaonal high water table and evidence of long duration saturation and/or inundation.

Representative Photographs

▲ Sample point 1A on wetland/upland boundary (2020).

▲ Sample point 1B in upland (2020).

▲ Upland/seasonal wetland boundary, near sample point 1B (2023).

▲ Sample point 2A in wetland, looking NE (2020).

▲ Near sample point 2A in wetland, looking SW (2023).

▲ Sample point 2B in upland (2020).

▲ Sample point 3C in upland (2020).

▲ Sample point 3D in upland (2020).

▲ Sample point SP-3 in willow wetland (2023).

▲ Sample point SP-2 in upland (2023).

Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Mateo County, Eastern Part, and San Francisco County, California

July 28, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,910 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Mateo County, Eastern Part, and San Francisco County, California
Survey Area Data: Version 16, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2019—Jun 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
109	Candlestick-Barnabe complex, 30 to 50 percent slopes	4.4	56.7%
131	Urban land	3.0	38.2%
132	Urban land-Orthents, cut and fill complex, 0 to 5 percent slopes	0.4	5.1%
Totals for Area of Interest		**7.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Mateo County, Eastern Part, and San Francisco County, California

109—Candlestick-Barnabe complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: h9gq
Elevation: 80 to 1,200 feet
Mean annual precipitation: 20 to 30 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Candlestick and similar soils: 45 percent
Barnabe and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Candlestick

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Hard fractured residuum weathered from sandstone

Typical profile

H1 - 0 to 2 inches: fine sandy loam
H2 - 2 to 20 inches: loam
H3 - 20 to 24 inches: sandy clay loam
H4 - 24 to 28 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Barnabe

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 7 inches: very gravelly sandy loam
H2 - 7 to 12 inches: very gravelly sandy loam
H3 - 12 to 16 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 8 to 20 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Orthents, cut&fill

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 4 percent
Hydric soil rating: No

Kron

Percent of map unit: 4 percent
Hydric soil rating: No

Buriburi

Percent of map unit: 4 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 4 percent
Hydric soil rating: No

131—Urban land

Map Unit Setting

National map unit symbol: h9hf
Elevation: 10 to 320 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 275 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Toeslope

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Orthents, reclaimed

Percent of map unit: 7 percent
Hydric soil rating: No

Orthents, cut&fill

Percent of map unit: 7 percent
Hydric soil rating: No

132—Urban land-Orthents, cut and fill complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: h9hg
Elevation: 30 to 500 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 275 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent
Orthents and similar soils: 45 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Alluvial fans, marine terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Parent material: Alluvium

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Orthents

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydric soil rating: No

Minor Components

Botella

Percent of map unit: 1 percent
Hydric soil rating: No

Orthents, reclaimed

Percent of map unit: 1 percent
Hydric soil rating: No

Sirdrak

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Hydric soil rating: No

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WETS Tables

Note: the nearest station with sufficient precipitation data (20 years) for generating WETS tables is the Oceanside Water Pollution Control Plant in southwest San Francisco, approximately 8.9 miles north of the Crespi Drive site. The coastal setting and overall climate are similar.

WETS Station: SAN FRANCISCO OCEANSIDE, CA

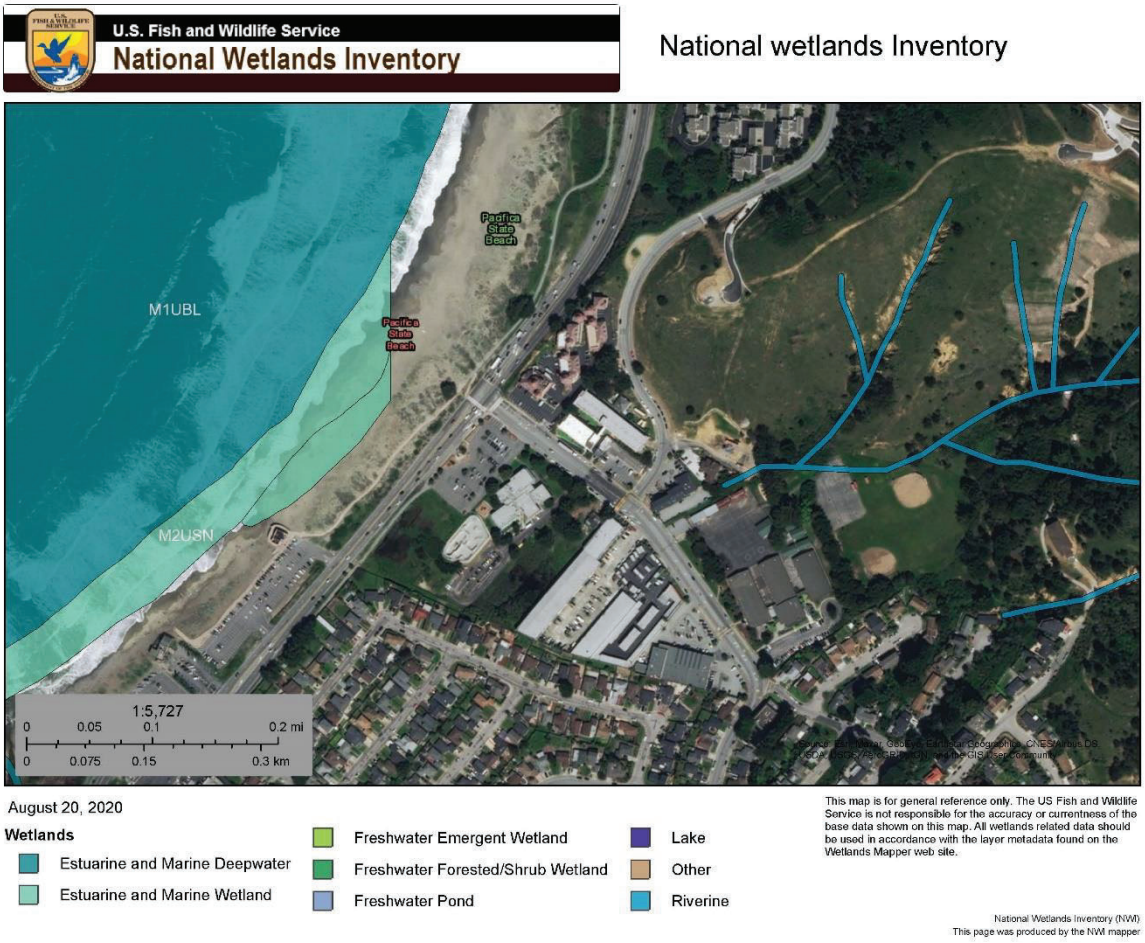
Requested years: 2000 - 2020

Month	Temperature (°F)			Precipitation (inches)				
	Avg daily max	Avg daily min	Avg daily mean	Avg	30% chance will have		Avg number of days with 0.10 inch or more	Average total snowfall
					less than	more than		
Jan	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-
May	59.1	50.3	54.7	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-
Jul	-	-	-	0.01	0.00	0.00	0	-
Aug	62.5	54.8	58.7	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-
Nov	63.4	49.3	56.3	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-
Annual:					-	-		
Average	-	-	-	-	-	-	-	-
Total	-	-	-	-			-	-

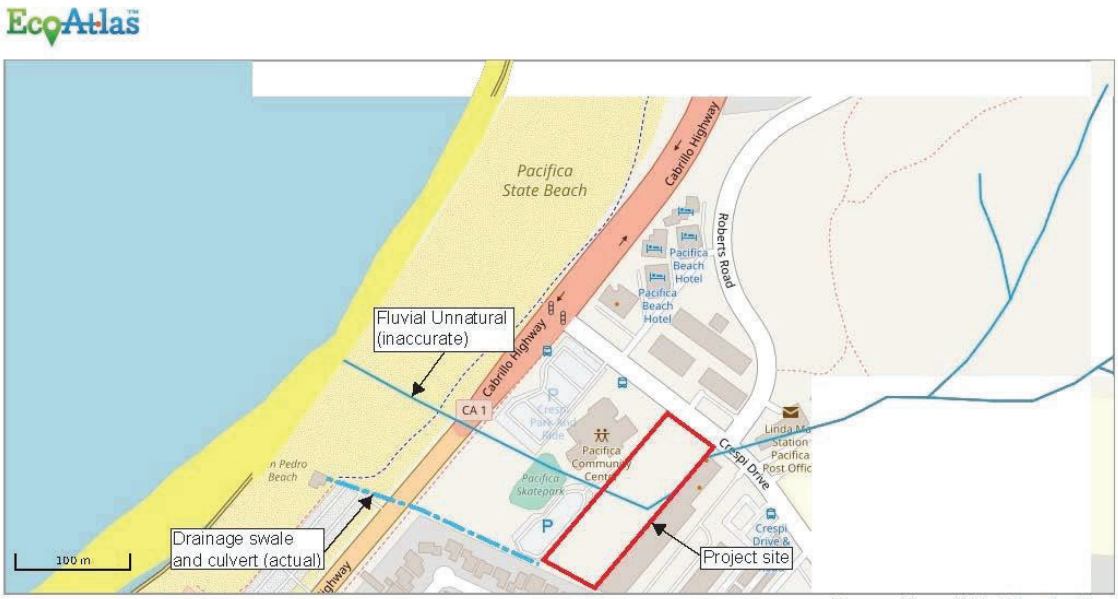
GROWING SEASON DATES

Requested years of data: 2000 - 2020

National Wetland Inventory Map



California Aquatic Resource Inventory Map



California Aquatic Resource Inventory Map

APPENDIX E

570 Crespi Drive Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	570 Crespi Drive
Construction Start Date	6/2/2025
Operational Year	2027
Lead Agency	City of Pacifica
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	37.59819136044743, -122.49929944787738
County	San Mateo
City	Pacifica
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1224
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.25

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	16.0	Dwelling Unit	0.78	36,839	5,602	—	46.0	—
Medical Office Building	3.17	1000sqft	0.07	3,165	7,953	—	—	—
Parking Lot	15.0	Space	0.13	0.00	0.00	—	—	—
Apartments Low Rise	3.00	Dwelling Unit	0.00	3,692	0.00	—	9.00	—
Other Asphalt Surfaces	5.56	1000sqft	0.13	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.22	2.04	6.83	8.29	0.02	0.23	0.88	1.05	0.21	0.41	0.57	—	1,530	1,530	0.06	0.02	0.18	1,538

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.37	1.25	1.51	< 0.005	0.04	0.16	0.19	0.04	0.07	0.10	—	253	253	0.01	< 0.005	0.03	255

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606

Mit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Mit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Mit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359
Mit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219

Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46.0	46.0	0.01	< 0.005	—	46.2

Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.7	39.7	< 0.005	< 0.005	—	39.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072

Dust From Material Movemen	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movement	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movemen	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movemen	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7

Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	6.33	6.33	< 0.005	< 0.005	—	6.39
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14.0	14.0	< 0.005	< 0.005	—	14.2

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.69	7.69	< 0.005	< 0.005	—	7.77

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Apartments	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	6/2/2025	6/3/2025	5.00	2.00	—
Grading	Grading	6/5/2025	7/30/2025	5.00	40.0	—
Building Construction	Building Construction	8/28/2025	1/13/2027	5.00	360	—
Paving	Paving	7/31/2025	8/27/2025	5.00	20.0	—
Architectural Coating	Architectural Coating	9/11/2025	1/27/2027	5.00	360	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	82,075	27,358	4,748	1,583	680

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1.88	0.00	—

Grading	2,400	—	40.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.26

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Medical Office Building	0.00	0%
Parking Lot	0.13	100%
Apartments Low Rise	—	0%
Other Asphalt Surfaces	0.13	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16

Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
82075.275	27,358	4,748	1,583	680

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	68,392	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,251	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	0.00	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,205	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00

Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00
Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—
Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—

Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00

Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Changes made based on project-specific information. It should be noted that the low-rise apartment acreage and landscaping are reflected in commercial land use due to being a mixed-use building. On-site parking has 15 spaces under the parking lot category, and the improvements in Parcel 2 are included under the Other Asphalt Surfaces category.
Construction: Construction Phases	Changes made based on applicant-provided information. Demolition stage not required. Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days.
Operations: Hearths	Natural gas hearths removed due to City prohibition for residential structures.

AERMOD Model Options

Model Options

Pathway	Keyword	Description	Value
CO	TITLEONE	Project title 1	Crespi Drive Project Construction Health Risk Assessment
CO	TITLETWO	Project title 2	
CO	MODELOPT	Model options	DFAULT,CONC,NODRYDPLT,NOWETDPLT
CO	AVERTIME	Averaging times	1,24,ANNUAL
CO	URBANOPT	Urban options	
CO	POLLUTID	Pollutant ID	PM25 H1H
CO	HALFLIFE	Half life	
CO	DCAYCOEF	Decay coefficient	
CO	FLAGPOLE	Flagpole receptor heights	1.8
CO	RUNORNOT	Run or Not	RUN
CO	EVENTFIL	Event file	F
CO	SAVEFILE	Save file	F
CO	INITFILE	Initialization file	
CO	MULTYEAR	Multiple year option	N/A
CO	DEBUGOPT	Debug options	N/A
CO	ERRORFIL	Error file	F
SO	ELEVUNIT	Elevation units	METERS
SO	EMISUNIT	Emission units	N/A
RE	ELEVUNIT	Elevation units	METERS
ME	SURFFILE	Surface met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.SFC
ME	PROFFILE	Profile met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.PFL
ME	SURFDATA	Surf met data info.	23234 2009
ME	UAIRDATA	U-Air met data info.	23230 2009
ME	SITEDATA	On-site met data info.	
ME	PROFBASE	Elev. above MSL	2.4
ME	STARTEND	Start-end met dates	
ME	WDROTATE	Wind dir. rot. adjust.	
ME	WINDCATS	Wind speed cat. max.	
ME	SCIMBYHR	SCIM sample params	
EV	DAYTABLE	Print summary opt.	N/A
OU	EVENTOUT	Output info. level	N/A

OU	DAYTABLE	Print summary opt.	

Source Parameter Tables

All Sources

Source ID / Pollutant ID	Source Type	Description	UTM		Elev.	Emiss. Rate	Emiss. Units	Release Height
			East (m)	North (m)	(m)			(m)
29R3K7E1	VOLUME	Construction Equip	544210.9	4161358.8	0	0.0015941	(g/s)	5

Volume Sources

Source ID / Pollutant ID	Description	UTM		Elev.	Emiss. Rate	Release Height	Init. Lat. Dim.	Init. Vert. Dim.
		East (m)	North (m)	(m)	(g/s)	(m)	(m)	(m)
29R3K7E1	Construction Equip	544210.9	4161358.8	0	0.0015941	5	29.59	1

BREEZE AERMOD Model Results

Max. Annual (5 YEARS) Results of Pollutant: PM25 (ug/m**3)

Group ID	High	Avg. Conc.	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
			East (m)	North (m)	(m)	(m)	(m)		
ALL	1ST	0.01595	544313.30	4161379.00	0.00	0.00	1.80	DC	
	2ND	0.01584	544308.30	4161389.00	0.00	0.00	1.80	DC	
	3RD	0.01528	544313.30	4161384.00	0.00	0.00	1.80	DC	
	4TH	0.01520	544318.30	4161374.00	0.00	0.00	1.80	DC	
	5TH	0.01504	544167.10	4161255.70	0.00	0.00	1.80	DC	
	6TH	0.01498	544308.30	4161394.00	0.00	0.00	1.80	DC	
	7TH	0.01466	544318.30	4161379.00	0.00	0.00	1.80	DC	
	8TH	0.01457	544313.30	4161389.00	0.00	0.00	1.80	DC	
	9TH	0.01455	544177.10	4161250.70	0.00	0.00	1.80	DC	
	10TH	0.01455	544162.10	4161255.70	0.00	0.00	1.80	DC	

Highest Results of Pollutant: PM25

Avg. Per.	Grp ID	High	Type	Val	Units	Date	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
						YYMMDDHH	East (m)	North (m)	(m)	(m)	(m)		
1-HR	ALL	1ST	Avg. Conc.	1.92131	ug/m**3	09011618	544167.10	4161255.70	0.00	0.00	1.80	DC	

Summary of Total Messages

#	Message Type
0	Fatal Error Message(s)
4	Warning Message(s)
6306	Informational Message(s)
43872	Hours Were Processed
5804	Calm Hours Identified
502	Missing Hours Identified (1.14 Percent)

Error & Warning Messages

Msg. Type	Pathway	Ref. #	Description
WARNING	CO	W276	Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H
WARNING	CO	W363	Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H

WARNING	OU	W565	Possible Conflict With Dynamically Allocated FUNIT PLOTFILE
WARNING	MX	W481	Data Remaining After End of Year. Number of Hours= 48

www.breeze-software.com

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Cancer Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK	1ST_DRIVER	2ND_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.01595	4.80E-06	1.75YrCancerHighEnd_Inh_FAH16to70	*	4.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Chronic Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Cresyl_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_DOSE	MMILK_DOSE	WATER_DOSE	FISH_DOSE	CROP_DOSE	BEEF_DOSE	DAIRY_DOSE	PIG_DOSE	CHICKEN_DOSE	EGG_DOSE	1ST_DRIVER	2ND_DRIVER	3RD_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.016	NonCancerChronicHighEnd_Inh	########	########	########	########	########	0.00E+00	########	########	########	0.00E+00	########	########	########	0.00E+00	"	1.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Acute Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL
1			9901	DieselExhPM	1.92131	NonCancerAcute	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

APPENDIX F

Hexagon Transportation Consultants, Inc.

Memorandum

Date: September 10, 2024

To: Mr. Eamon Murphy, HomeSite Services Inc.

From: Kai-ling Kuo

Subject: VMT Analysis for Proposed Mixed-Use Development at 570 Crespi Drive in Pacifica, California

Hexagon Transportation Consultants, Inc. has completed a Vehicle Miles Traveled (VMT) analysis for the proposed mixed-use development at 570 Crespi Drive in Pacifica, California (see Figure 1). The project would consist of 16 townhome units, 3 below-market-rate (BMR) condominium units, and 3,165-square feet (sf) of ground floor commercial space (see Figure 2). The buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. The project would involve off-site improvements, including construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center located immediately to the west at 540 Crespi Drive (see Figure 2).

The purpose of this study is to analyze the project's potential transportation impact on VMT as part of the environmental analysis. A traffic impact analysis (TIA) based on intersection level of service (LOS) was prepared for the CEQA Initial Study of the project (December 2021). Since then, the CEQA requirements have changed, and the transportation impacts will be assessed based on vehicle miles traveled (VMT) rather than LOS.

Scope of Study

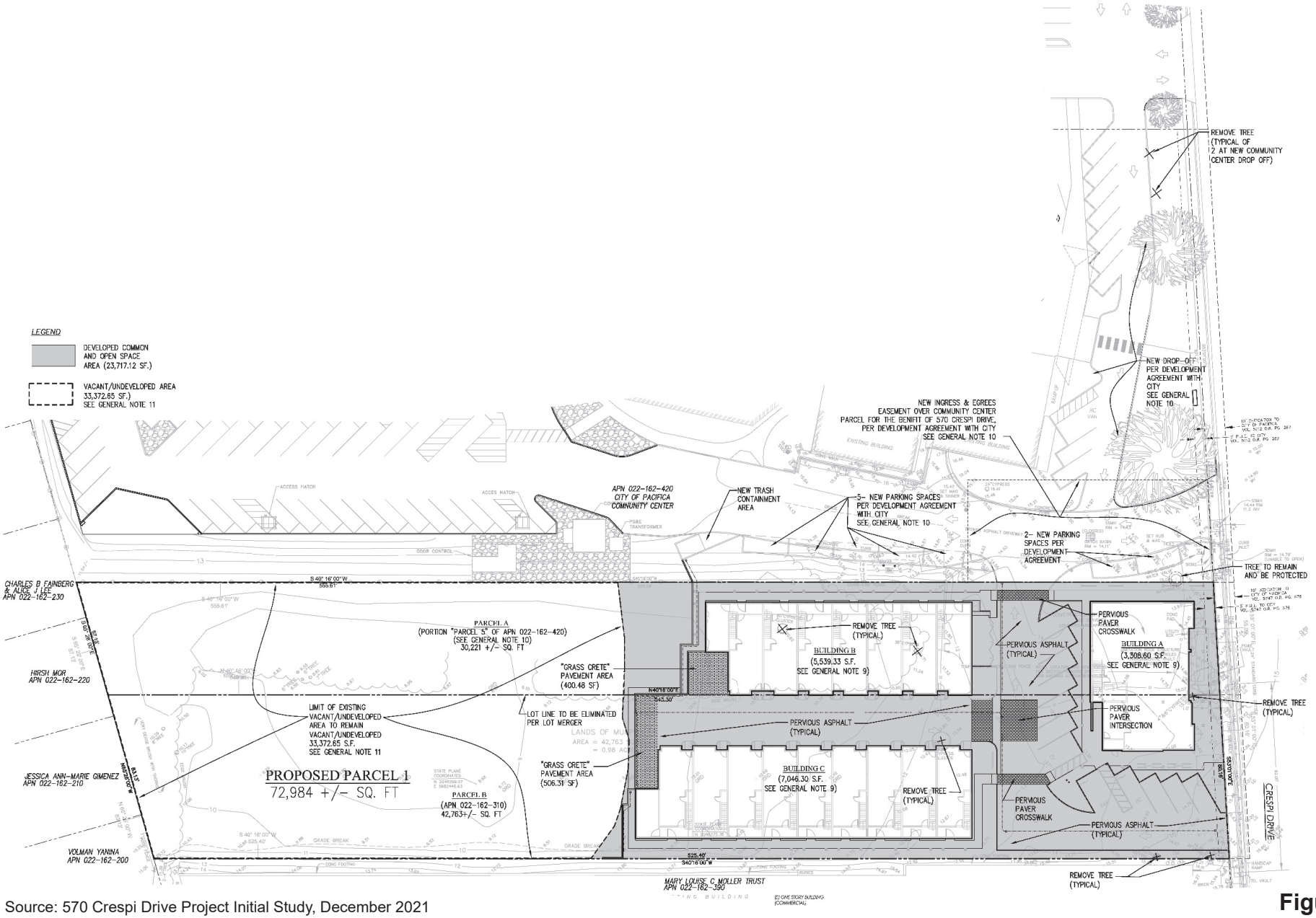
According to CEQA guidelines published in 2018 and becoming mandatory in 2020, transportation impacts of new developments should be evaluated using VMT. The goal is to reduce VMT, which reduces the overall burden on the transportation system and reduces greenhouse gas emissions. To help guide lead agencies, the Office of Planning and Research (OPR) published Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018. Since the City has not yet adopted a VMT policy or significance thresholds related to VMT, the VMT analysis was based on the screening criteria, thresholds of significance, and approach described in the OPR's Technical Advisory and the City's recent General Plan EIR (2022).

When assessing the VMT impact, a project's VMT level is measured in average daily VMT per capita for residential land use and average daily VMT per worker for commercial land use and compared to the appropriate thresholds of significance. OPR recommends that new developments should utilize a threshold that is 15% below baseline (existing) conditions. Baseline conditions may be defined as the existing regional average VMT, county average VMT, or city average VMT. Pacifica's recent General Plan EIR used a threshold of 15% below the existing citywide average as a threshold.

OPR recommends that small land use projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant VMT impact. Therefore, if a project/land use component would generate 110 trips per day or fewer, the project/land use component would meet the screening criterion and would have a less than significant VMT impact.

Source: 570 Crespi Drive Project Initial Study, December 2021

Figure 1
Site Location



Source: 570 Crespi Drive Project Initial Study, December 2021

Figure 2
Site Plan

NORTH
Not to Scale

The project includes two types of land uses (residential and commercial), for which the potential VMT impact was evaluated separately and compared to the screening criteria and thresholds of significance based on the land use type.

For the project component that would not meet the screening criterion, the City/County Association of Governments of San Mateo County (C/CAG) VMT Estimation Tool was used to estimated VMT from the proposed land use and compared to a significance threshold. The percentage of reduction required to mitigate the VMT impacts was identified, and possible improvements to reduce the VMT impacts are discussed.

Screening for VMT Analysis Exemption

Daily vehicle trips that would be generated by the project were estimated based on the average daily trip rate published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition, for "Medical-Dental Office Building" (Land Use 720)[1], for "Single-Family Attached Housing" (Land Use 215), and for "Multifamily Housing Low Rise" (Land Use 220) (see Table 1).

The proposed commercial use would generate 88 daily trips, which would meet the screening criterion for small projects and would result in a less-than-significant VMT impact. However, the proposed residential use would generate more than 110 daily trips and requires a VMT analysis to evaluate its VMT impact.

Table 1
Project Trip Generation Estimate

Land Use	Size	Weekday Rate	Weekday Trips	Saturday Rate	Saturday Trips	Sunday Rate	Sunday Trips	Average Daily Trips
Commercial								
Medical-Dental Office Building[1]	3.165 ksf	36.00	114	13.78	44	1.14	4	88
Residential								
Single-Family Attached Housing[2]	16 units	7.20	115	8.76	140	7.17	115	119
Multifamily Housing Low Rise[3]	3 units	6.74	20	4.55	14	3.86	12	18
Total Residential Trips								*137*

Source: ITE Trip Generation Manual, 11th Edition
1. Average trip rates expressed in trips per 1,000 square feet (ksf) for Medical-Dental Office Building (Land Use 720) are used.
2. Average trip rates expressed in trips per dwelling unit for Single-Family Attached Housing (Land Use 215) are used.
3. Average trip rates expressed in trips per dwelling unit for Multifamily Housing Low Rise (Land Use 220) are used.

VMT Analysis

The VMT analysis for the proposed residential use was conducted by comparing the estimated daily VMT to the average citywide VMT to determine whether the proposed residential use would generate VMT 15% below the average citywide VMT per capita. Based on the C/CAG VMT Estimation Tool [2], the average daily VMT per capita for residents in Pacifica is 15.7 (year 2024). Therefore, the CEQA threshold VMT is 13.34 miles per capita, which is 15% below the citywide VMT.

[1] The TIA of the project used the ITE trip rates for Medical-Dental Office Building because it is the highest probable use given size and location.
[2] https://gis.smcgov.org/apps/CCAG_VMT_EstimationTool/ accessed on August 28, 2024.

Within this part of Pacifica (Traffic Analysis Zone 1925), the daily VMT from the model is 17.3 miles per capita in the year 2024 (see Appendix A). The VMT for the TAZ including the project site is considered to be representative of the project itself because the project (townhomes) is equivalent to the other residential development in the area. Because the daily VMT is higher than the threshold, the project would have a potential significant impact on VMT. A 23% reduction in daily trips would be necessary to mitigate the impact.

Mitigations

The California Air Pollution Control Officers Association (CAPCOA) report *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (December 2021)* estimates VMT reduction relative to a project's design features and applicable TDM measures. The estimated reduction in VMT based on the project's design features and potential mitigation measures are described below. With implementation of this mitigation program, the project could achieve a 4.6% reduction in VMT (see Appendix B).

- Land Use – A VMT reduction can be achieved for developments based on the land use, design, and location. The project would increase the residential and employment density and would provide three affordable units (about 16% of total residential units).
    - Integrate Affordable and Below Market Rate Housing (CAPCOA Measure T-4) – The project proposed to provide 16 percent of the allowable base density housing as affordable units (3 units). Per guidance from the CAPCOA report and calculations from the C/CAG VMT Estimation Tool, a 2.3% VMT reduction can be achieved.
- Neighborhood Design/Site Enhancement – A VMT reduction can be achieved for developments with pedestrian friendly designs.
    - Pedestrian Network Improvement (CAPCOA Measure T-18) – The project would provide pedestrian walkways within the site and implement offsite improvements within the northern portion of the existing Pacifica Community Center, including pedestrian connections within the improvement area and from the project site to the Pacifica Community Center. Research has shown that creating pedestrian friendly connections reduce automobile trips and increase the likelihood of residents walking. Based on 2021 Handbook and calculations from the C/CAG VMT Estimation Tool, a 1.7% reduction in the Neighborhood Design category was applied.
- Trip Reduction Program – A VMT reduction could be achieved for providing a transit fare subsidy. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips, and therefore reduce VMT.
    - Transit Fare Subsidy (CAPCOA Measure T-9) –SamTrans Routes, 14, 19, PCX operate along Crespi Drive with the closest bus stop located about 250 feet away from the project site. SamTrans Routes 10 and 110 operate along Highway 1 with the closest bus stop located at the intersection of Highway 1 and Crespi Drive, which is about 550 feet away from the project site. Transit subsidies are not practical for ownership units (Townhomes and condominiums) on an on-going basis. However, two free one-year transit pass could be given to each new owner upon original purchase from the developer. By providing residents with transit passes, it may encourage new residents to utilize transit rather than driving to work. Per

guidance from the 2021 CAPCOA Handbook and calculations from the C/CAG VMT Estimation Tool, a 0.6% reduction of VMT could be achieved.

Conclusions

The proposed commercial use of the project would generate 88 daily trips, which would meet the screening criterion of 110 daily trips for small projects and would result in a less-than-significant VMT impact. However, the proposed residential use would generate more than 110 daily trips and requires a VMT analysis to evaluate its VMT impact.

Based on the C/CAG VMT Estimation Tool, the VMT of the project area is estimated to be 17.3 per capita in year 2024, which exceed the significance threshold of 13.34 per capita. Therefore, the project would need to reduce its VMT by 23% to mitigate the potentially significant impact. With a combination of site design features to promote alternative transportation methods and transportation demand management (TDM) features, the project is estimated to be able to reduce the VMT generated by up to 4.6%, which would not be enough to mitigate the project's VMT impact. Thus, the project's impact to VMT would be significant and unavoidable.

Appendix A

C/CAG VMT Estimation Report

C/CAG VMT Estimation Tool Report

Project Details

Timestamp of Analysis: September 04, 2024, 12:23:39 PM

Project Name: 570 Crespi Drive Residential

Project Description: 19 residential units and 3,165 sf commercial.

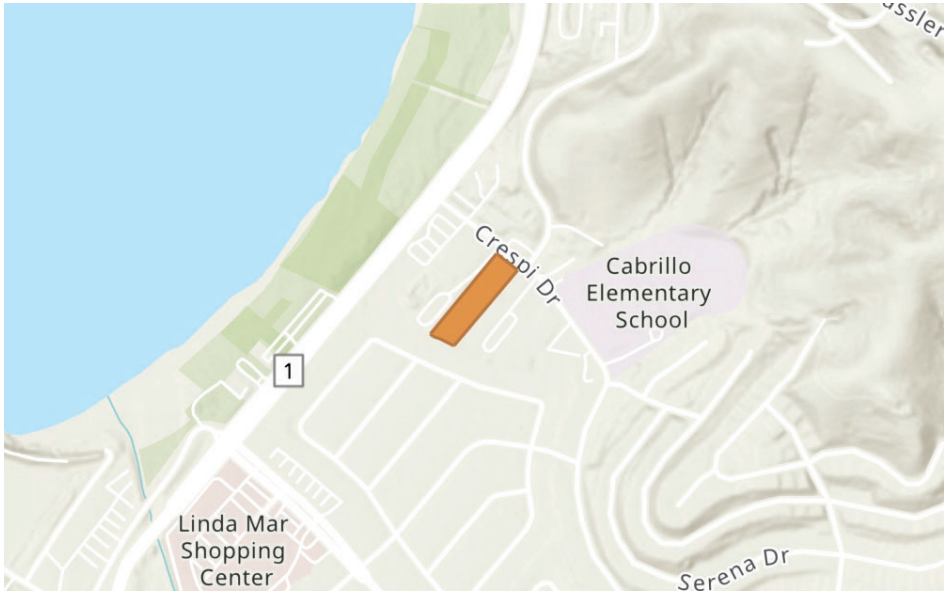
Project Location

jurisdiction: Pacifica

apn	TAZ
022162310	1925

Inside a TPA?

No (Fail)



Analysis Details

Data Version: C/CAG Travel Model

Analysis Methodology: TAZ

Baseline Year: 2024

Project Land Use

Residential:

Single Family DU:

Multifamily DU:

Total DUs: 0

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

Parking:

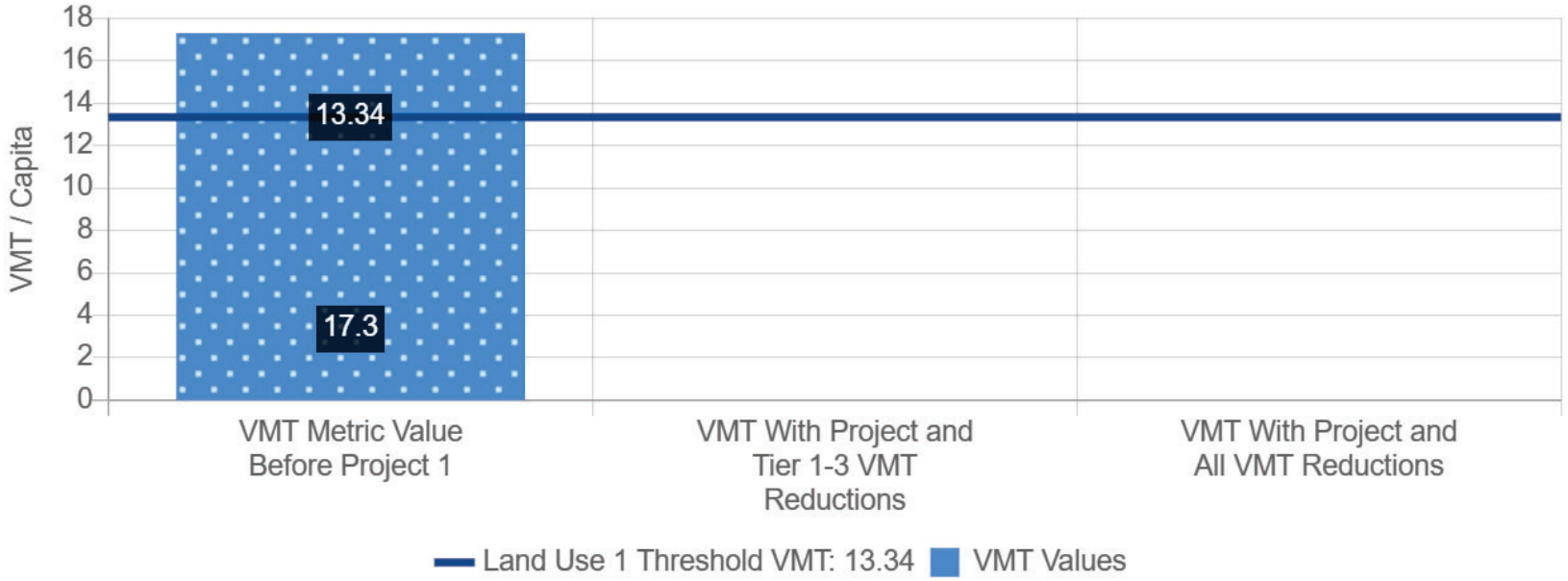
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project 1:	Home-Based VMT per Resident
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	15.7
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	17.3	null	null
Low VMT Screening Analysis	No (Fail)	null	null



Appendix B

C/CAG VMT Estimation Report with Mitigations

C/CAG VMT Estimation Tool Report

Project Details

Timestamp of Analysis: September 04, 2024, 12:41:27 PM

Project Name: 570 Crespi Drive Residential

Project Description: 19 residential units and 3,165 sf commercial.

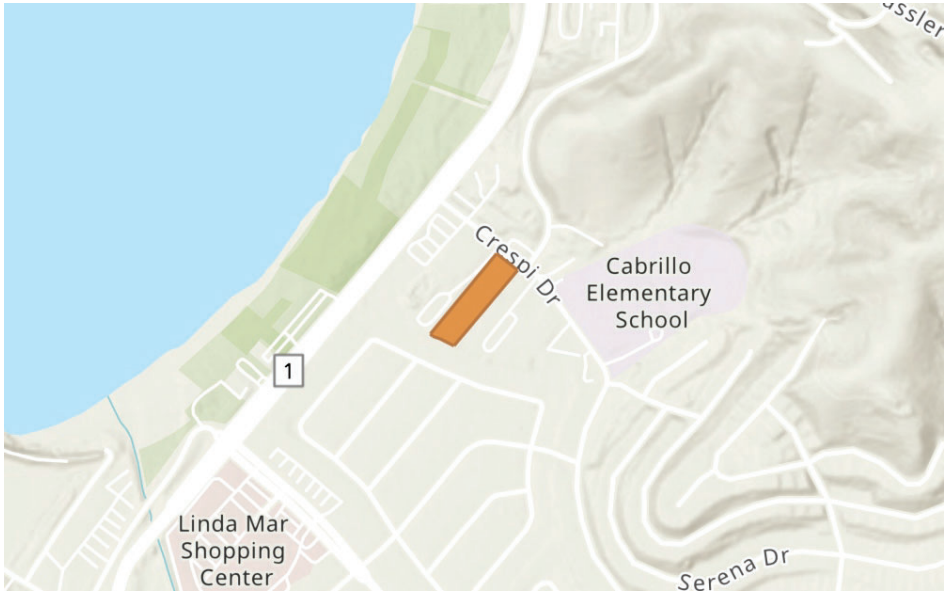
Project Location

jurisdiction: Pacifica

apn	TAZ
022162310	1925

Inside a TPA?

No (Fail)



Analysis Details

Data Version: C/CAG Travel Model

Analysis Methodology: TAZ

Baseline Year: 2024

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	19
Total DUs:	19

Non-Residential:

Office KSF:	3
Local Serving Retail KSF:	
Industrial KSF:	

Residential Affordability (percent of all units):

Extremely Low Income:	0 %
Very Low Income:	0 %
Low Income:	16 %

Parking:

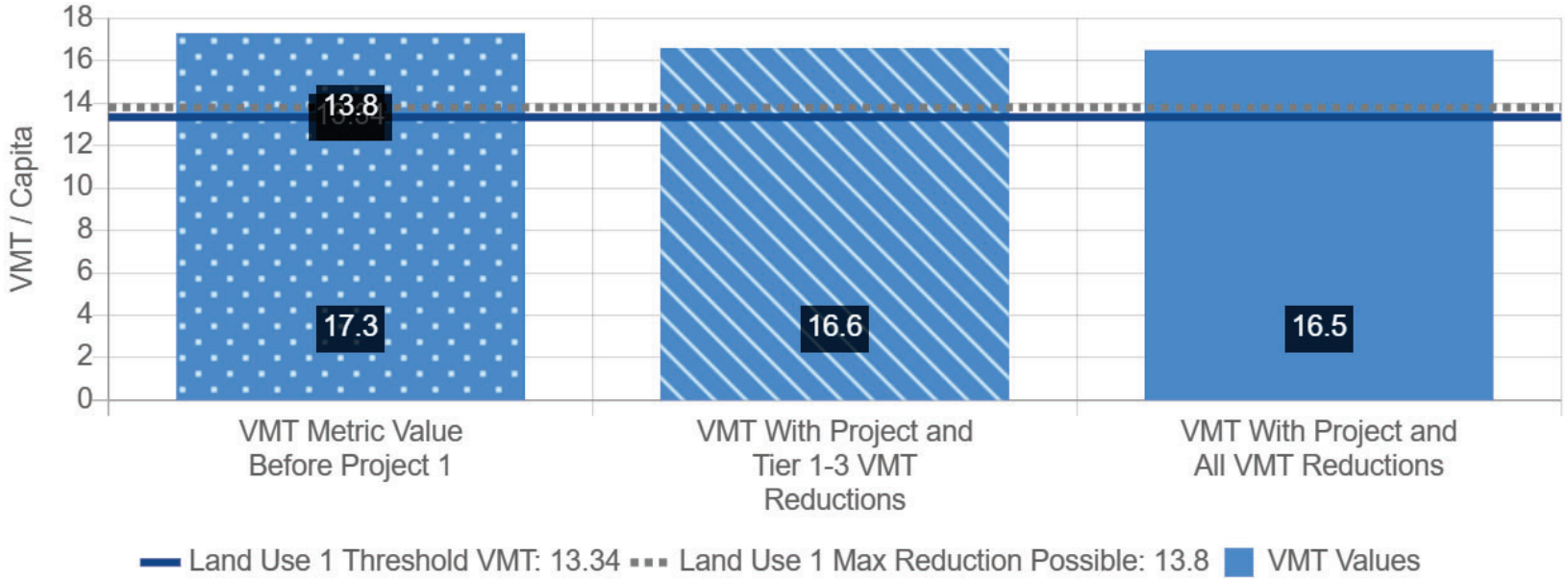
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project 1:	Home-Based VMT per Resident
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	15.7
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	17.3	16.6	16.5
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	6.29
With Project Residential Density:	6.39

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.53
With Project Residential Diversity Index:	0.53

PC03 Affordable Housing

Low Income:	16 %

PC04 Increase Employment Density

Existing Employment Density:	28.12
With Project Employment Density:	28.39

Tier 2 Multimodal Infrastructure

MI05 Pedestrian Networks

Pedestrian Improvements Beyond Development Frontage:	Yes

Tier 4 TDM Programs

TP01 School Pool Programs

School Pool Program Percent of Expected Participant Households:	20 %

TP07 Subsidized Transit Program

Percent of Transit Subsidy:	100 %